



Flying Operations

MH-53 OPERATIONS PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 11-2, *Flight Rules and Procedures*. It establishes procedures for the operation of TH/MH-53 helicopters employed by AFSOC and AETC to accomplish their worldwide operational and training missions. Unless noted otherwise, instructions contained herein apply to TH/MH-53A/J/M helicopters. It provides the most acceptable policies and procedures for most circumstances, but does not replace sound judgment. This instruction does not apply to the Air National Guard or Air Force Reserve Command. The Paperwork Reduction Act of 1974 as amended in 1996 affects this instruction. Maintain and dispose of all records created as a result of prescribed processes in this instruction in accordance with AFMAN, 37-139, *Records Disposition Schedule*.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

The tactics, techniques and procedures have been removed from this regulation and placed in AFTTP 3-1 Vol 34. Changes include, but are not limited to, the following. Procedures for Direct Support Operators have been added. Cover ship requirements have been changed. Security and reporting procedures have been updated. IMC TF/TA regulations have been added. Alert procedures have been altered. The following forms are referenced in this regulation AFTO Form 46 **Prepositioned Life Support Equipment**, AFTO 781 **Aircrew/Mission Flight Data Document**, AF Form 847 **Recommendation for Change of Publication**, AF Form 15 **USAF Invoice**, AF Form 315, **USAF Aviation Fuels Invoice**, AF Form 651 **Hazardous Air Traffic Report (HATR)**, AF Form 711 **USAF Mishap Report**, DD Form 96 or DD form 2131 **Passenger Manifest**, DD Form 175 **Military Flight Plan**, DD Form 365 **Weight and Balance**, DD Form 1801 **DOD International Flight Plan**.

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Chapter 1

GENERAL INFORMATION

1.1. General:

1.1.1. This is an Air Force directive for helicopter aircrews. It is written for normal and contingency operations to minimize requirements for procedural changes at the onset of contingencies. Procedures for the training environment are included.

1.1.2. The Directorate of Aircrew Standardization/Evaluation (HQ AFSOC/DOV) has overall responsibility for this instruction.

1.2. Applicability. All USAF MH-53 units. References to units, personnel, and aircraft in this regulation include all gained forces unless specifically exempted by this instruction.

1.3. Terms Explained.

1.3.1. "Will and shall" indicate a mandatory requirement.

1.3.2. "Should" indicates a recommended procedure that is required if practical.

1.3.3. "May" indicates an acceptable or suggested means of accomplishment.

WARNING: Operating procedures, techniques, etc., which will result in personal injury or loss of life if not carefully followed.

CAUTION: Operating procedures, techniques, etc., which will result in damage to equipment if not carefully followed.

NOTE: Operating procedures, techniques, etc., which are essential to emphasize.

1.4. Deviations and Waivers. Do not deviate from the policies and guidance in this regulation, except:

1.4.1. For safety.

1.4.2. When it is necessary to protect the crew and aircraft from a situation not covered by this AFI and immediate action is required, the Aircraft Commander has ultimate authority and responsibility for the course of action to be taken. Report all deviations or exceptions without waiver through channels to MAJCOM/DO. Although this publication provides guidance for aircraft operations under most circumstances, it is not a substitute for sound judgment.

1.4.3. When waived by the appropriate authority. Unless otherwise indicated, MAJCOM/DO is the waiver authority for this regulation. MAJCOM/DO may delegate this authority to the COMAFSOF for operational forces. Request waivers through command and control channels.

1.5. Supplements. MAJCOMs may supplement this instruction. Forward MAJCOM supplements to AFSOC/DOV and HQ AFFSA/XOF for approval before publication and provide HQ AFFSA/XOF one copy after publication. Units may supplement this instruction. The purpose of the unit supplement is to document the process by which units implement the requirements of this instruction. Post the unit supplement behind the basic instruction and MAJCOM supplement. Supplements should not duplicate and will

not be less restrictive than the provisions of this or any other publication without prior authorization from the appropriate MAJCOM and HQ AFFSA/XOF.

1.6. Requisitioning Procedures. Units will requisition this instruction through the USAF publications site at <http://afpubs.hq.af.mil>.

1.7. Revisions. Personnel at all echelons are encouraged to submit proposed changes IAW AFI 11-215, through MAJCOM Stan/Eval channels to HQ AFSOC/DOVR. Use AF Form 847, **Recommendation for Change of Publication**.

1.8. Distribution.

- 1.8.1. MH-53 Unit/CCs, All Levels - 1
- 1.8.2. Operational File (Ops Section), All Levels - 1
- 1.8.3. FCIF - 1
- 1.8.4. Staff Ops Officers, All Levels - 1
- 1.8.5. Mission Coordinator Kits - 1
- 1.8.6. Mission Navigation Kits - 1
- 1.8.7. Aircrew – 1

Chapter 2

COMMAND AND CONTROL

2.1. General The following paragraphs summarize mission commander, or if none is assigned, Pilot in Command (PIC) duties with regard to flight reporting:

2.1.1. Unclassified missions at bases with a Command and Control Facility. Mission commanders or pilots in command will ensure that the following data is relayed to the C2 facility: call signs, mission number, ETA, maintenance status, and additional service requirements. After landing, the mission commander or PIC will contact the C2 facility with ground handling requirements and departure information. In addition, CONUS-based crews operating within the CONUS must ensure that their home station command posts are kept apprised of all actual takeoff and landing times, projected take-off times, and other related information.

2.1.2. Unclassified Missions at Bases Without a Command and Control Facility. Mission commanders or pilots in command will report, as soon as possible, actual takeoff and landing times, maintenance status, projected takeoff times, and other pertinent data to the appropriate reporting agency. CONUS-based crews operating within the CONUS must also ensure that their home station command posts receive real-time reports on aircraft movements.

2.1.3. J-coded AIMS Missions. J-Coded AIMS missions are classified missions which cannot be loaded into the GDSS system. When operating on J-coded missions, the mission commander or PIC will pass movement reports to the appropriate C2 facility. If necessary, the mission commander or PIC can call on an unclassified line and report. For example, "Loaded and ready to go at J-code 206. ETD is 1400Z."

NOTE: For missions requiring special handling above and beyond basic J-code procedures, command and control procedures will be outlined in the tasking directive.

2.1.4. Close-hold or Sensitive Missions. These missions may operate without AIMS setups. (See "NOTE" above.)

2.1.5. In all cases, Mission commanders or pilots in command may pass reporting information to their respective group/wing command post. AFSOC crews may contact the AFSOC Command Center, Hurlburt Fld FL at DSN: 312-579-2171 or commercial: 800-451-7705 or 850-581-2966

2.2. Mission Commander. A mission commander will be designated when more than one aircraft and crew is deployed away from home station for training, exercises, or other operations. The mission commander or air mission commander will not be a primary crewmember for exercises, but may fly as a crewmember, on a non-exercise related mission. Mission commander responsibilities include, but are not limited to:

2.2.1. Briefing crews on local operating procedures.

2.2.2. Coordinating with ATC, CCT, range control, users, and others that may have an impact on the mission.

2.2.3. Ensuring personnel have ample and adequate billeting, messing, and transportation arrangements.

2.2.4. Ensuring maintenance personnel know of aircraft and fuel requirements.

2.2.5. Submitting timely reports on aircraft movements.

2.3. Pilot in Command Responsibility and Authority. A PIC is designated for all flights on the MAJ-COM approved flight authorization. Pilots in command are:

- 2.3.1. In command of all persons aboard the aircraft.
- 2.3.2. Responsible for the welfare of their crew and the safe accomplishment of the mission.
- 2.3.3. Vested with the authority necessary to manage their crew and accomplish the mission.
- 2.3.4. The final mission authority and will make decisions not specifically assigned to a higher authority.
- 2.3.5. The final authority for accepting a waiver affecting his crew or mission.
- 2.3.6. Charged with keeping the applicable commander informed of mission progress and difficulties.
- 2.3.7. Responsible for the timely reporting of aircraft movements.

2.4. Mission Clearance Decision. The final decision to delay a mission may be made either by the agency with OPCON or the PIC when, in the opinion of either, conditions are not safe to start or continue a mission. Final responsibility for the safe conduct of the mission rests with PIC. If the PIC refuses a mission, it will not depart until the conditions have been corrected or improved so that the mission can operate safely. Another PIC and aircrew will not be alerted to take the same mission under the same conditions.

2.4.1. Diverting or re-routing a mission must be authorized by the commander with OPCON, except in an emergency or when required by enroute or terminal weather conditions or facilities. In the event of an emergency or weather related divert or reroute, the mission commander or PIC must notify the controlling authority as soon as possible.

2.4.2. When directing an aircraft to an alternate airfield, the controlling agency will ensure the PIC is provided existing and forecasted weather for the alternate.

2.5. Assistance to Civil Authorities. Public law and policy restricts the use of military forces to assist civilian law enforcement. The Posse Comitatus Act of 1878 prohibits the unauthorized use of US military forces to assist civilian law enforcement except in very limited circumstances. Report all requests for assistance from civilian law enforcement authorities through command and control channels. In cases of extreme emergencies, in order to prevent the loss of life, prevent human suffering, or mitigate great property loss, a commander may offer assistance to civil authorities and victims which is necessary to meet immediate needs until civil authorities can arrive. If possible and time permitting, the commander should seek command approval. However, the commander will not enforce US civilian criminal laws as prescribed by the Posse Comitatus Act, including search and seizure warrants, making arrests of civilians (differs from temporarily detaining civilians), or transport law enforcement officials into areas of imminent danger or where confrontation with civilian criminals is likely. Non-emergency based assistance must be approved prior to execution.

Chapter 3

CREW COMPLEMENT/MANAGEMENT

3.1. Crew Complement. The basic crew complement will be as specified in the flight manual and **Figure 3.1**. The group commander, or COMAFSOF, may waive the crew complement specified in **Figure 3.1** down to the minimum flight manual crew of 3 (pilot, copilot, flight engineer).

3.1.1. Additional Crewmembers (ACM). An ACM is one assigned in addition to the normal aircrew complement required for a mission. AETC crews will refer to AFI 11-401, *Flight Management* / AETC Supplement 1 for ACM guidance.

3.1.1.1. Logging of Flying Time. Flight examiners, HQ and group tactics personnel, flight surgeons, and medical technicians log flying time IAW AFI 11-401, *Flight Management*. Other ACMs may log flying time only at the discretion of the PIC.

3.1.2. Direct Support Operator (DSO). In addition to the duties established in applicable TOs and other directives, the DSO will comply with the procedures and duties in this volume. The DSO is responsible for providing internal, direct threat warning to and enhancing situational awareness of the aircrew.

3.1.2.1. Pre-Deployment/Pre-Mission Procedures.

3.1.2.1.1. Theater Analysis. The DSO will coordinate with SILENT SHIELD analysts, intelligence personnel and other agencies to obtain pertinent, current and complete data for the area of operation. The DSO and other aircrew, as necessary, will use obtained data for inclusion in mission planning.

3.1.2.1.2. Mission Equipment/Materials. The DSO is responsible for coordinating with all appropriate agencies to obtain any required mission planning equipment, professional gear and SILENT SHIELD equipment. The DSO will ensure all equipment is inventoried and checked to ensure proper operation prior to deployment/flight (as required) for mission accomplishment.

NOTE: The DSO will ensure there is additional equipment (as required) to sustain mission needs for the entire deployment/flight.

3.1.2.2. Mission Planning

3.1.2.2.1. Based upon data analysis, the DSO will coordinate with the aircrew to ensure the planned route of flight minimizes aircraft exposure to threats and the probability of detection. The DSO will also use this information to assist the crew in assessing the survivability of the aircraft against known threats.

3.1.2.2.2. The DSO will formulate a planned use of Silent Shield equipment based upon the route of flight and brief the crew on anticipated inputs in relation to the route.

3.1.2.3. Briefings

3.1.2.3.1. At a minimum, the DSO will brief the crew on the following items: Silent Shield equipment configuration, intercom procedures, and anticipated Silent Shield inputs.

3.1.2.3.2. The DSO will ensure that the aircrew is aware of Silent Shield capabilities and limitations, as well as operational security considerations pertaining to Silent Shield.

3.1.2.4. Pre-flight/In-flight Duties

3.1.2.4.1. Prior to flight, the DSO will inventory and confirm the configuration of all Silent Shield equipment onboard the aircraft, and perform an operation check of the equipment. Equipment and seating will be arranged to provide maximum flexibility and minimize tripping hazards. Equipment weight will be provided to the crew for planning purposes.

3.1.2.4.2. Antenna placement: the primary antenna will be the lower side blade antenna installed in the cargo hook compartment. The C2 antenna connection is viable and is used when anticipating cargo hook sling use. Engine running installation (hot turn) of the lower blade antenna requires installing the corresponding sponson pin and the use of wheel chocks. Engine running installation of the lower antenna will be pre-planned and fully briefed.

3.1.2.4.3. When required, the DSO will coordinate maintenance for Silent Shield equipment problems, and keep the crew informed as to any potential mission delays or degraded mission capabilities.

3.1.2.4.4. The DSO will monitor Silent Shield systems and pass pertinent information to the crew. Sound judgement will be exercised when making advisories via intercom, minimizing clutter and offering concise, useful information to the crew.

3.1.2.4.5. The DSO will advise the crew of any changes in the status of Silent Shield equipment.

3.1.2.4.6. The DSO will be responsible for knowing approximate aircraft location, altitude, and crew intentions at all times.

3.1.2.5. Post-Mission Duties

3.1.2.5.1. The DSO will pass equipment discrepancies to maintenance.

3.1.2.5.2. The DSO will provide post-mission inputs to the Silent Shield analysts.

NOTE: The DSO will not provide inputs to the Post Mission Flight Report (PMFR).

3.1.2.6. Augmentation. Some contingency operations may require personnel from other units, or in some cases, non-aircrew personnel, to provide Silent Shield supports. In these cases, a mission ready, instructor qualified DSO will fly as the primary DSO, and is responsible for DSO inputs.

3.2. Interfly. Group commander or COMAFSOF is the approval authority for interfly of Air Force crewmembers on MH-53 aircraft under their control, otherwise HQ AFSOC/DO is the approval authority. In all cases, the crew must be qualified in the aircraft MDS. 58 SOW interfly requirements are governed by AFSOC/AETC Memorandum of Agreement.

3.3. Scheduling Restrictions. In addition to the restrictions in AFI 11-202 Volume 3, *General Flight Rules*, do not schedule crewmembers to fly or perform crew duties:

3.3.1. After consuming alcoholic beverages within 10 hours of mission reporting time or within 12 hours of assuming alert or standby duty, or when under the influence of alcoholic beverages.

3.3.2. Within 24 hours after being administered anesthetics for dental or surgical procedures. Local flight surgeons will determine scheduling restrictions following immunizations. When mission requirements dictate, flight surgeons may authorize shorter periods of not less than 8 hours.

3.3.3. When taking oral or injected medication, unless individual medical waiver has been granted by the command surgeon. Mild analgesics, such as aspirin and aspirin substitutes, may be used without a prescription when the underlying illness itself is not cause for grounding. Dexedrine or similar stimulation "pep pills" may not be used unless authorized by HQ AFSOC/SG.

3.4. Flight Duty Periods. In addition to the restrictions in AFI 11-202 Volume 3, comply with the following:

3.4.1. Crew duty day for training flights and FCFs is 12 hours.

3.4.2. Crew duty day for flights where the sole purpose is deployment or redeployment is 14 hours.

3.4.3. Crew duty day for deployments/redeployments in which training is planned enroute is 12 hours.

3.5. Crew Rest. In addition to the restrictions in AFI 11-202 Volume 3, comply with the following:

3.5.1. Under unusual circumstances, and when waived by the appropriate authority, it is permissible for crewmembers not previously placed in crew rest to fly if they say they are sufficiently rested.

3.5.2. Crewmembers departing on missions scheduled to recover away from home station should be notified 24 hours before reporting for the mission. The first 12 hours are designed to allow crewmembers to resolve personal affairs. During these first 12 hours, a crewmember may perform limited non-flying duties. The second 12-hour period is inviolate.

3.5.3. Post-mission crew rest applies to all flying TDYs and begins upon the final return of an individual to home station and runs continuously until completed. Post-mission crew rest must be completed before starting pre-departure crew rest for a subsequent mission. Do not require a crewmember to get immunizations, engage in ground training, perform standby or squadron duties, or perform any other activity that would encroach upon crew rest.

3.5.3.1. Waiver authority for post-mission crew rest is the Group CC, or COMAFSOF. Waiver requests for post-mission crew rest are considered on a case by case basis only with the concurrence of the individual crewmember. Compute post TDY crew rest at the rate of 1 hour off for every 3 hours of TDY not to exceed 72 hours.

3.6. Standby Duty. A period of time during which a crew may be required to launch on an anticipated mission for which a firm departure time cannot be established.

3.6.1. Aircrew members will be provided a 12-hour inviolate crew rest period preceding the start of standby duty.

3.6.2. Aircrew not dispatched on a mission following standby duty will receive post-mission crew rest.

3.7. Alert Procedures:

3.7.1. Alert personnel are those personnel required to be on duty and available for prompt prosecution of the mission. The location of alert personnel will be such that desired speed-into-action standards can be met without jeopardizing the safety of personnel or equipment. Alert personnel normally will consist of the following :

3.7.1.1. Alert crews must be readily available in an alert facility or in a location that will ensure the capability to meet speed-into-action standards. When required, suitable alert facilities will include adequate sleeping accommodations for the entire crew. Publish flight authorizations for the alert crew to cover the entire alert tour.

NOTE: Do not assign peacetime alert crews or billets a security priority.

3.7.1.2. Other Alert Personnel. Place all personnel required to launch the alert aircraft on alert status.

3.7.2. Alert duty is defined as any period during which an alert crew is on call to perform its mission.. Provide aircrew members an inviolate 12 hours crew rest prior to alert duty. The Unit Commander will determine the length of the alert tour, not to exceed 72 hours. Pre-departure crew rest is waived for flight surgeons or medical technicians who are on alert duty for urgent aeromedical evacuation missions.

3.7.2.1. Crew duty time period starts when the crew reports for flight. Do not construe the initial daily alert activities (e.g., briefing, preflight, cocking, engine run, hover check of the alert aircraft) as starting the flight duty time period of the alert crew. If alert aircraft cannot be put up on alert within 2 hours of crew show at the aircraft, the alert crew will proceed to the spare. A total of 4 hours will not be exceeded for alert crew, while preparing aircraft for alert.

3.7.2.2. The alert crew may be considered in crew rest status upon the termination of the flight, even though remaining on alert. It is recognized that numerous circumstances may arise that affect the decision to replace the alert crew, and each incident must be evaluated on an individual basis.

3.7.2.3. If the alert crew completes 12 consecutive hours of crew rest between flights, the previous CDT period no longer applies and the cycle can be started anew provided the crew does not remain on alert for more than 72 hours from their initial assumption of alert.

3.7.2.4. Do not use the alert crew as a "preflight or engine run" crew for aircraft other than the alert aircraft, nor to perform other fatiguing duties.

3.7.2.5. Grant alert crews required to stand alert at locations other than their domicile during other than normal duty hours 1 hour of free time for every 3 hours of alert.

3.7.3. AFSOC Alert Aircraft. Unit CC/COMAFSOF will determine if aircraft are on alert.

NOTE: AFSOC "Alert" aircraft designations are not directed by the National Command Authority (NCA), but are implemented by the mission to place designated aircraft packages on an increased level of standby and does not require increased security forces as indicated in AFI 31-101, Chapter 13. The decision to post additional security forces should be based on the local threat.

3.7.3.1. Parking. Park the alert aircraft in a designated alert parking area to expedite taxi and take-off.

3.7.3.1.1. Climatic Protective Facilities. During periods of extreme cold or severe weather, every effort should be made to shelter essential AGE and alert aircraft in a hangar to ensure

operational readiness in the event of a mission. Blade covers and engine heaters must be available for use, as required.

3.7.3.2. Flying Alert Aircraft. The alert aircraft may be flown for purposes other than actual alert missions provided the following conditions are complied with:

3.7.3.2.1. Alert requirements can be met with sufficient fuel to meet mission requirements.

3.7.3.2.2. Communication contact is maintained with the primary controlling agencies.

3.7.3.2.3. Complete operationally qualified crew is on board.

3.7.3.2.4. Controlling agencies are notified any time the alert aircraft departs the local area.

3.7.4. Give alert crews a general briefing at the beginning of each alert period. Update the briefing every 24 hours to include weather, local NOTAMs, latest FCIF information, special instructions, and any other appropriate items. Alert crews will prepare a DD Form 365, **Record of Weight and Balance Personnel**, for the alert aircraft and are authorized to prepare Takeoff and Landing Data (TOLD) using the worst weather conditions expected during the alert period. Use this data only for alert scrambles. If the alert aircraft is flown for other reasons, compute data for that flight using existing weather conditions.

3.7.4.1. When an alert crew change occurs and the same aircraft remains on alert, the oncoming alert crew will complete an aircraft preflight, and as a minimum, apply power to the aircraft and check applicable items listed below. When an alert aircraft changes the alert crew will perform an aircraft preflight, engine run, hover check, and cocking of the aircraft.

3.7.4.1.1. Review AFTO Form 781, **AFORMS Aircrew/Mission Flight Data Document**.

3.7.4.1.2. Proper Configuration and Special Equipment.

3.7.4.1.3. Fuel quantity.

3.7.4.1.4. Survival and Emergency Equipment.

3.7.4.1.5. Navigation and Communication Equipment.

NOTE: Should the aircraft remain on alert for more than 3 consecutive days, a complete aircrew preflight is required each fourth day, to include an engine run and rotors engaged, and refuel probe inspection.

3.7.4.1.6. Once accepted for alert, the alert crew will make an entry in the AFTO Form 781, stating, "Aircraft accepted on alert at _____, _____." (local time and date). No maintenance may be performed on it without prior approval of the alert crew PIC and notification of the unit operations section. To ensure integrity of the crew preflight, an alert crewmember must be present whenever maintenance is performed, or at the completion of the maintenance, the crew is required to check the area in which maintenance was performed. The check should be performed as soon as practical after the maintenance and must be performed prior to flight.

3.7.5. Waiver authority for alert duty period is HQ AFSOC/DO. Unless specifically mentioned above, all other alert waivers rest with OG/CC or COMAFSOF.

Figure 3.1. Crew Complement.

MISSION (NOTE 6)	PILOT	COPILOT	ENGINEER	GUNNER
FCF (Note 1)	1	1	1	
Transition/Instm/EP's (Note 2)	1	1	1	
Day Remote	1	1	1	2
SAR/ALERT	1	1	2	2
Tactical (Note 3)	1	1	2	2
Ferry (Note 4)	1	1	1	
Non-Tac Day Formation	1	1	1	
Sling (Note 5)	1	1	1	2
Hot Refueling (Note 7)	1	1	1	
Augmented	SEE	NOTE	8	

NOTES:

NOTE 1: Maintain a list of designated FCF crewmembers within the unit. FCF copilots should be pilot in command qualified. This does not preclude designation of a highly qualified copilot when a PIC is not available. Crewmembers non-current or unqualified for mission items may perform FCFs.

NOTE 2: Use of night vision goggles is authorized. Night EP's require a full tactical crew.

NOTE 3: 58 SOW ONLY: Crew complement for day tactical training including day formation and air refueling may be waived by the 551 SOS/CC to a 5-man crew (P, CP, FE, FE/AG, AG). The aircraft commander will position crewmembers accordingly for different phases of flight. Day water operations and all live team work require the standard night tactical crew compliment.

NOTE 4: Non-simultaneous day air refueling may be accomplished. Night vision goggle use is authorized.

NOTE 5: For remote/unimproved area operations use tactical crew complement.

NOTE 6: For IDAS/MATT modified aircraft comply with the crew complement specified in [Figure 3.1](#). Additionally, any cockpit crewmembers not IDAS/MATT certified must be under the supervision of an instructor.

NOTE 7: In addition to the minimum cockpit crew (pilot, copilot, flight engineer), conduct hot refueling with two additional personnel who are H-53 hot refuel qualified.

NOTE 8: Augmented aircrew consists of another aircraft commander in addition to the crew complement required for the mission being flown.

Chapter 4

AIRCRAFT SECURITY

4.1. Procedures. Pre-mission planning should ensure that adequate enroute security is available. The amount of protection required will vary, depending on the location and ground time. The PIC will receive a threat assessment and security capability evaluation briefing at home station and can receive updates at enroute command posts. During scheduled and unscheduled landings at non-USAF installations PIC's will assess the situation and take the following actions, if necessary:

4.1.1. Area Patrol. Obtain area patrol coverage from local security forces to include back up response. If local authorities request payment for this service, use AF Form 15, **USAF Invoice**. If unable to obtain local security forces, direct armed crewmembers to remain with the aircraft and maintain surveillance over aircraft entrances and activities in the vicinity of the aircraft. Acquire a means to report suspicious or hostile activity to security forces (e.g., land mobile radio).

4.1.2. Departure Without Crew Rest. If local security forces are unacceptable/unavailable and the crew is not augmented with security police, the PIC may waive crew duty time limitations and depart ASAP for a base listed as reliable. If unable to depart the location due to system malfunction coordinate through home base channels to acquire security police support.

4.2. Arming of Crewmembers. Unit commanders may direct arming of crewmembers as deemed necessary by mission threat analysis. During all operations where weapons are on board, arm an aircrew member. Protect these weapons and other installed IAW AFI 31-101, *The Air Force Installation Security Program* (FOUO).

4.2.1. Loading and Transfer of Weapons. Load and unload weapons at approved clearing barrels, if available. Do not use a hand-to-hand transfer of loaded weapons to another crewmember; place the weapon on a flat surface.

4.2.2. Wearing of Weapons. Wear weapons in a holster, concealed if possible, to protect the identity of armed crewmembers. Do not wear weapons off the flightline except to and from operations, armories, and other facilities associated with aircrew activities (e.g., base operations, passenger terminals, flightline cafeteria, etc).

4.2.3. Weapons Storage Inflight. Arm crewmembers before beginning preflight or on-load duties. When no passengers are aboard, weapons may be stored in the gun box in flight. Rearm before landing. Do not unload weapons before placing them in the gun box.

4.2.4. Weapons Storage at Deployed Location. During crew rest, store weapons in the most secure facility available, normally the base armory. If a weapons storage facility is unavailable or the country prohibits or restricts the entry of weapons, secure firearms and ammunition in the gun box.

4.2.5. Aircraft Without a Gun Box. If an aircraft without a gun box must remain overnight at a location where a government owned storage facility is unavailable, use the nearest acceptable facility. Acceptable storage facilities are US and allied military services armories, US Reserve and National Guard armories, and US civil law enforcement armories. If none of these are available, or the PIC believes security of weapons may be compromised, secure the weapons in quarters, but one armed crewmember must remain with the weapons.

4.3. General Hijacking Guidance. An aircraft is most vulnerable when the crew is on board and the aircraft is ready for flight. Delay tactics have been most successful in saving lives and property. Detection of potential hijackers before they board the aircraft is the best solution to the problem.

4.3.1. If personnel must clear their weapons, they will move to a safe, clear area at least 50 feet from any aircraft, equipment, or personnel before unholstering or unslinging weapons.

4.4. Ground Resistance.

4.4.1. Initial Action. Delay movement of the aircraft to provide time for ground forces and the aircrew to evaluate the situation and coordinate their efforts.

4.4.2. Communications. Establish communications with ground agencies using radios, IFF and SIF equipment, or any covert means available.

4.4.3. Delaying Actions. Continue to delay until, in the judgment of the PIC, further delay may result in homicidal attempts by the hijacker. At this time, inform the on-scene commander. The highest ranking officer available (on-scene commander, Wing CC, or MAJCOM CC), will make final decision to discontinue delaying actions.

4.4.4. Positive Detainment. Detain or disable the aircraft when:

4.4.4.1. Requested by the PIC.

4.4.4.2. Directed by MAJCOM/CC or higher for national security.

4.4.5. Local Procedures. Review local ground support hijacking procedures at enroute bases before departure. The local procedures of airfields under the operational control of non-USAF agencies (i.e., Navy, Army, etc.) may conflict with MAJCOM policy, but must be complied with.

4.5. Inflight Resistance. Take advantage of any opportunity to regain control of the aircraft or influence the conduct of the flight.

4.5.1. Notify ATC of your situation immediately. If the hijacker does not permit the use of the radio and the aircraft is under positive control of an ATC facility, attempt to communicate by using the IFF and SIF.

4.5.2. Notify both crew and passengers of the situation as soon as practical for maximum assistance against the hijacker.

4.5.3. Be as negative to all of the hijacker's demands as possible. Initial response to the hijacker should leave the issue in doubt. Try to calm the hijacker. Get the hijacker to talk.

4.5.4. Convince the hijacker intermediate stops are necessary and must be at US military bases because of incompatibility of fuel or maintenance at other airfields. After landing, try to discharge passengers. Use ground forces to regain control of the aircraft.

4.5.5. Give reasons for not complying with the hijacker's demands; e.g., inability to communicate with foreign sources (radio frequency or language problem), dangers from surface-to-air missiles, antiaircraft fire, or armed intercept by hostile aircraft.

4.5.6. Propose favorable alternatives; e.g., landing in a neutral rather than an unfriendly nation.

4.5.7. As a last resort:

4.5.7.1. Simulate emergencies to deceive the hijacker into believing a forced landing is necessary.

4.5.7.2. Use weapons against the hijacker.

4.6. Covert Communications. Figure 4.1. covers procedures to follow if in-the-clear radio transmissions are not possible.

4.7. Forced Penetration of Unfriendly Airspace:

4.7.1. Procedures in this paragraph should prevent hostile actions against an aircraft that penetrates the boundary of an unfriendly nation as a result of a hijacking. Comply with instructions received by radio or from an interceptor. Without instructions, comply with the following before entering unfriendly airspace:

4.7.1.1. Maintain an altitude above 10,000 MSL, if possible.

4.7.1.2. Fly the most direct courses to the destination demanded by the hijacker unless the hijacker insists on another route.

4.7.1.3. Transmit MAYDAY on 243.0 or 121.5

4.7.1.4. Squawk mode 3, code 7700.

4.7.1.5. Try to destroy all classified documents and equipment aboard before landing in an unfriendly nation.

Figure 4.1. Covert Communication Signals.

	TO REPORT	TAKE THIS ACTION
1	Am being hijacked.	Set transponder to mode 3, code 7500 and/or transmit "(Call sign) transponder seven five zero zero." (Note 1).
2	In the clear communication not possible.	Use the word "Trip" after the call sign prefix in communicating on the radio with ground agencies (e.g., Cowboy "Trip" 65). (Note 2).
3	Situation appears desperate.	Change transponder from mode 3 code 7500 to 7700 and/or transmit "(Call sign) squawking seven seven zero zero."
4	Situation still desperate, want armed intervention and aircraft immobilized.	"(Call sign) flaps are full down."
5	Leave alone, do not intervene.	If transponder was set to mode 3, code 7700, return to code 7500. Transmit "(Call sign) back on seven five zero zero."

NOTES:

NOTE 1: Controllers will acknowledge code 7500 by asking the pilot to verify it. An affirmative response or no reply from the pilot indicates confirmation. Controllers will not ask further questions; they will flight follow, respond to pilot requests, and notify appropriate authorities.

NOTE 2: The controller should respond using the word "TRIP" in the aircraft call sign. Use of the word "TRIP" in the aircraft call sign by the controller prior to its use by the aircrew asks the aircrew if in-the-clear communication is possible. In this situation, the aircrew response should include "TRIP" only if in-the-clear communication is not possible. After notified in-the-clear communication is not possible, ATC will limit radio transmissions to minimum essential ATC functions until advised otherwise by the aircrew.

4.8. AIRCRAFT FORCE PROTECTION RISK ASSESSMENT MATRIX . PICs will use **Figure 4.2.** to help assess the risk to parked aircraft when located at overseas civilian airfields. A cumulative score of less than 55 indicates that normal unmanned aircraft security measures are adequate. A score of 55 to 80 indicates that adequate security is provided by deployed US ground personnel working 24 hour operations. If the cumulative score is greater than 80, or if any of the shaded areas in the figure are applicable, commanders should consider deploying or contracting security personnel. During unscheduled or emergency landings, the PIC should contact the US Embassy or USDAO for security assistance.

Figure 4.2. Aircraft Force Protection Risk Assessment Matrix.

FACTORS	0 POINTS	5 POINTS	10 POINTS	15 POINTS
The local terrorist threat is currently: (Note 1)	Negligible	Low	Medium	high
Installation/airport security services are: (Note 2)	Provided by host military forces only	provided by host military and contract security forces	Contract security forces only	not available
Host security forces control entry:	to the flightline and installation / airport	to the flightline only	to the installation / airport only	to neither the flightline nor the installation / airport
There is perimeter fencing or barriers around:	The flightline and installation/ airport	the flightline only	The installation / airport only	neither the flightline or the installation / airport
Host security forces will provide _____ to guard the aircraft	An armed sentry	an unarmed sentry	Random security patrol coverage only	no sentry or random patrol coverage
Host security forces will _____ security incidents involving the aircraft	Provide armed response to	provide unarmed response to	notify civilian authorities of	notify the PIC of
The aircraft will be parked:		separate from host military and civilian aircraft	Among other host military aircraft only	among civilian aircraft
The aircraft will _____ illuminated during the hours of darkness (Note 3)		be adequately	be marginally	not be

TOTAL POINTS:**NOTES:**

Note 1: Derive the local threat from valid intelligence sources only.

Note 2: Airport is defined as “exclusively civilian airfield.”

Note 3: “Adequate lighting” is equal to the illumination provided by one standard USAF light cart.

Chapter 5

TRAINING

Section 5A—Training

5.1. Training Aircraft Not Capable of Flight. If an aircraft is not capable of departure within 4 hours after scheduled departure time, cancel the training mission unless waived by the PIC. Departure consists of actual takeoffs for assigned or planned training missions, and does not include maintenance ops checks or aborted hover checks.

5.2. Wind Restrictions. Takeoffs and Landings will not be accomplished when surface winds exceed:

5.2.1. 30 knots steady state or 20 knots gust spread.

5.2.2. 40 knots steady state or 20 knots gust spread when an instructor pilot is in command.

5.3. Water Operations Training. Conduct water training at approved water operating areas.

Section 5B—Tactical Training Procedures

5.4. IMC Terrain Following/ Terrain Avoidance Training:

5.4.1. FAR Exemption 4371 allows IMC TF/TA operations below published enroute IFR minimum altitudes. Aircraft operating in the CONUS must comply with all requirements of Exemption 4371. Units operating in OCONUS locations must comply with host nation agreements for IMC TF/TA training.

5.4.2. Route surveys must be conducted prior to any IMC TF/TA training. They must be updated within 6 months of use.

5.4.3. Weather Minimums.

5.4.3.1. In order to TF/TA in IMC conditions for training, you must operate under IFR and abide by the IFR training weather minimums stated in this publication.

5.4.3.2. IMC TF/TA for training will not be accomplished in weather conditions forecast, or observed, which include thunderstorms.

5.4.3.3. IMC TF/TA for training will not be accomplished in weather conditions of observed heavy precipitation.

5.4.3.4. Prior to entering IMC conditions the aircrew must accomplish all in-flight checks of the TF/TA radar and navigation systems to ensure they are functioning correctly.

5.4.4. Altitude Restrictions. For IMC TF/TA training, the minimum set altitude is 200'.

5.4.5. Coupled Approaches are not authorized for training while in IMC.

5.5. Evasive Maneuver Training.

5.5.1. Initiate evasive maneuvers at, and maintain a minimum of 100 feet obstacle clearance throughout the evasive maneuvering.

5.5.2. Pilots will make advisory calls to the crew prior to beginning the evasive maneuver. Crewmembers will clear the aircraft of obstacles throughout the maneuvering.

5.6. Power Required for Terminal Operations Training:

5.6.1. Clear escape route: Hover power plus 5 percent

5.6.2. Restricted escape route: Out of ground effect (OGE) hover power plus 5 percent.

5.7. Landing Zones.

5.7.1. The HLZ Survey program is a tactics function. Unit stan tactics must ensure that surveys are conducted and updated IAW the procedures below. It is the responsibility of all aircrew or ground personnel to notify the POC for the unit HLZ survey program, in timely manner, of any changes or discrepancies on existing HLZ surveys in a timely manner.

5.7.2. In all cases, except operational or contingency missions, HLZs (Landing or AIE) require a documented landing zone survey. HLZ surveys will be conducted during daylight by a qualified STS member or an instructor qualified aircrew member (IP, IF, or IG). If these personnel are not available and/or a landing zone survey can't be accomplished, the squadron commander or COMAFSOF may approve the temporary use of the following methods. If the following methods are used, the currency of the materials must be considered and aircrew should use extreme caution while operating at higher risk.

5.7.2.1. Imagery.

5.7.2.2. 1:50,000 scale map or less.

5.7.2.3. Squadron Commander/COMAFSOF approved personnel that do not meet the above requirements.

5.7.2.4. Squadron Commander/COMAFSOF may approve the use of other MAJCOM equivalent HLZ surveys.

5.7.3. All HLZ surveys will be updated every six months. HLZs that are not updated in the six months time period will be closed until resurveyed using the above criteria (does not require a new landing zone survey). The absolute minimum to update a HLZ survey requires a qualified STS member or an instructor qualified aircrew member (IP, IF or IG) to resurvey the HLZ during daylight. This member must evaluate items 7, 8 and 9 of the landing zone survey. If an HLZ survey has gone more than a year without an update it is considered expired and a new landing zone survey will be accomplished IAW AFI 13-217 and the AFSOC supplement. The squadron commander may extend the currency of a HLZ survey up to two months past it's update period.

5.7.4. A thorough review of the landing zone survey and accompanying photography/imagery will be accomplished by all crewmembers during the aircrew brief. The aircraft commander is responsible for ensuring that any crewmember unable to attend the brief either reviews the landing zone survey or is briefed on hazards associated with the HLZs.

5.8. Live-Hoist Training. Restrict live hoist training to the minimum necessary to accomplish initial qualification, re-qualification, and proficiency training. Squadron commanders determine eligibility of personnel to ride the hoist during training. Altitude is the minimum required to accomplish the mission. Hoist training over trees should be conducted at sites that are adjacent to a suitable emergency landing

area. When over water or over vessels, hover at the minimum altitude necessary to avoid salt spray. Practicing hoist with or without a tag line is permissible.

NOTE: The survivor/safety observer will be briefed to pick a relatively clear area for a faster and safer low hover altitude extraction

5.8.1. Personnel may ride the hoist IAW the following:

5.8.1.1. Aircrew/ Qualified Supported Forces. No safety observer is required.

5.8.1.2. Other Personnel. There will be a qualified safety observer available to ensure the survivor properly uses the rescue device.

5.9. Helicopter and Fighter Evasive Training. Refer to AFI 11-214, *Aircrew and Weapons Director Procedures for Air Operations*, for further guidance.

5.9.1. Brief all individuals involved in the mission on the rules of engagement (ROE). Conduct a ROE briefing with the aggressor force crewmembers. Minimum separation will be briefed.

5.9.2. Procedures. Fly evasive tactics under the following criteria:

5.9.2.1. Use procedures outlined in AFTTP 3-1 Volume 34(S), *Tactical Employment-MH-53*, and AFTTP 3-3 Volume 34, *Tactical Employment-MH-53*.

5.9.2.2. Helicopters and aggressor will establish and maintain communications on a common pre-briefed frequency during the entire engagement.

5.9.2.3. If two aircraft approach head-on, each will clear to the right and the fighter will go above the helicopter.

5.9.2.4. If visual contact is lost during an engagement, the aggressor aircraft will proceed to an assigned altitude block.

5.9.2.5. All aircraft will maintain a 1,000-foot clearance from clouds.

5.9.2.6. Prevailing visibility in the area must be 5 NM or greater.

5.9.2.7. Any flight member can terminate the engagement by transmitting "Knock It Off," at which time all participants will cease maneuvering and acknowledge with call sign, such as "HAWK One, Knock It Off."

5.9.2.8. Safe all weapons.

5.9.3. Terminate an engagement when one of the following occurs:

5.9.3.1. The engagement drifts to the border of the authorized area.

5.9.3.2. An unbriefed, unscheduled flight enters the aerial combat tactics (ACT) area and is a factor detrimental to the safe conduct of the mission.

5.9.3.3. Visual contact is lost by the aggressor aircraft within 3000 feet.

5.9.3.4. Helicopter rocks rotor tip path plane (not associated with normal maneuvering).

5.9.3.5. If a dangerous situation is developing.

5.9.3.6. Minimum altitude or clouds are approached.

5.9.3.7. Situational awareness is lost.

5.9.4. Special Instructions:

5.9.4.1. Helicopters flying at or below 300 feet AGL need not maintain radio contact with attacking fixed-wing aircraft so long as vertical and lateral separation criteria are pre-briefed and clearly understood by all participants. Two-way radio contact is required for any air-to-air scenario involving helicopters operating above 300 feet AGL, for any scenario involving aggressor helicopters, and for any scenario involving HC/MC-130E/H/P aircraft.

5.9.4.2. Formation. When helicopters flying in formation are subject to simulated fighter attack during exercise participation, the formation leader will brief formation response to attack by simulated hostile aircraft. The following items must be briefed as a required supplement to the basic tactical consideration:

5.9.4.2.1. Aircraft under simulated aerial attack will maneuver so as to establish and maintain positive lateral separation; aircraft in close formation will make their initial breaks away from each other.

5.9.4.2.2. Terminate evasive maneuvers if inter-formation radio contact is lost or at any time doubt exists as to the position of other aircraft in the formation.

5.10. Helicopter Evasive Maneuver Training. Helicopter versus helicopter evasive maneuver training is only authorized at higher headquarters-directed exercises and formal tactical schools. Current helicopter and fighter procedures and ROE apply with the following additions:

5.10.1. Descend no lower than 100 feet above obstacles.

5.10.2. Maintain a 500-foot lateral displacement and a 100-foot minimum altitude separation between participating helicopters.

5.10.3. Engagement will terminate with loss of visual contact or a termination call.

5.10.4. Coordinate crossing ridge lines and blind covers with opposition helicopters to ensure altitude separation of a minimum of 100 feet.

5.10.5. All participating helicopters will maintain communications on a common pre-briefed frequency at all times.

5.11. ECM Training Policy. For training, operational ECM software can only be used in the CONUS, and only after the signal collection risk is evaluated. Evaluate the signal collection risk through coordination with squadron intelligence personnel. Crewmembers will provide geographical coordinates of the intended operating area, the time period of concern, and the frequency range of ECM operations. After analyzing the signal collection risk, operational ECM software may be used during scheduled airborne intercept training and against ground and sea-based threats. Use of operational software against Multiple Threat Emitter System (MUTES) is prohibited at all times. Accomplishing system BIT in accordance with aircraft checklist with operational software is approved. In all other training situations within the CONUS and in all training situations overseas only use ECM software versions specifically designated for training.

5.12. Flares and Chaff Policy. Dispense flares IAW controlling agency procedures and restrictions. When over water, dispense flares at least 3 NM from any surface vessel, platform, or land mass.

Section 5C—Non-Tactical Training

5.13. Simulated Instrument Flight. The use of a hood or other artificial vision-restricting device is not authorized for any phase of flight.

5.14. Simulated Emergency Restrictions and Procedures:

5.14.1. Compound emergencies are prohibited.

5.14.2. Prohibited Maneuvers. The following maneuvers are prohibited:

5.14.2.1. Actual in-flight engine shutdown.

5.14.2.2. Blade stall and power settling.

5.14.2.3. Actual shutdown of fuel control.

5.14.2.4. Actual shutdown of hydraulic systems.

5.14.2.5. Water landings.

5.14.2.6. Practice autorotations more than 30 minutes past sunset or 30 minutes before sunrise.

5.14.3. Restrictions. Accomplish unusual attitude training and autorotations during day VMC only. All other EP's may be conducted during day or night VMC. The following restrictions apply to all EP training:

5.14.3.1. Simulated emergency procedures may be initiated outside the airfield environment but must be terminated at a military airfield or designated airfields with letters of agreement and have proper crash and rescue equipment.

5.14.3.2. When an instructor or flight examiner pilot is designated on flight orders under "Crew Position" as IP or EP and occupies a pilot seat with a set of controls. Instructor pilot candidates may perform or supervise simulated emergencies during initial evaluations under the supervision of a flight examiner pilot not in a pilot seat if the other pilot at the controls is qualified as a PIC, or higher, in the maneuver.

5.14.4. In addition to the above restrictions, the following restrictions apply to night EP's:

5.14.4.1. Instructor pilot is appropriately certified for night EP's.

5.14.4.2. Crew compliment is Night TAC (IAW [Figure 3.1.](#)).

5.14.4.3. Weather is at or above 1,000 feet ceiling and 2 SM's visibility or circling minimums, whichever is higher.

5.14.5. Practice Autorotations. The following policy is established for practice autorotations:

5.14.5.1. The initial autorotation for training or currency must be a straight-ahead autorotation accomplished by the instructor to evaluate aircraft performance (during evaluations, the pilot being evaluated may perform this autorotation). The first autorotation may be accomplished from 500 feet AGL.

5.14.5.2. Instructor pilots will terminate the maneuver and initiate a power recovery at the first indication of abnormally high or low rotor RPM, excessive sink rate, low airspeed, ineffective flare, or at any time an inadvertent touchdown might occur.

5.14.5.3. Accomplish autorotations to a runway or taxiway if possible. When such an area is not available, select a smooth, level area. The instructor or flight examiner will ensure it is free of obstructions prior to commencing training.

5.14.5.4. Power recovery autorotations require the aircraft to be aligned within 45 degrees of the wind direction when winds are 15 knots or greater; below 15 knots aircraft heading must be within 90 degrees of the wind. A functional wind-indicating device must be available to provide accurate wind information.

5.14.5.5. Minimum entry altitude for autorotations is 500 feet AGL with no more than a 45 degree offset from the intended landing direction. Autorotations requiring more than 45 degrees of turn will be accomplished from a minimum of 1,000 feet AGL. The throttles will not be retarded below 100 percent Nr.

5.14.6. Simulated Single-Engine Emergencies.

5.14.6.1. Single-engine approaches and landings where a throttle is retarded, must be practiced to a hard surface landing area.

5.14.6.2. Initiation of practice single-engine emergencies must not be lower than 300 feet AGL, 80 KIAS.

NOTE: Practice single-engine emergencies may be initiated below the above listed altitude as long as torque available is limited on both engines versus reducing torque available on the simulated failed engine. Instructors must use caution when simulating single-engine emergencies at low altitudes and airspeeds.

5.14.6.3. Practice the following simulated single-engine maneuvers by limiting the torque available on both engines versus reducing torque for the simulated failed engine:

5.14.6.3.1. Air refueling.

5.14.6.3.2. Approaches to a spot.

5.14.7. AFCS--OFF. Conduct under the following limitations:

5.14.7.1. Initiate maneuvers on the ground or in straight and level flight at a minimum altitude of 300 feet AGL and 80 KIAS.

5.14.7.2. Tactical and non-tactical approaches are authorized to a hover or landing. All practice approaches will be to a hard surface landing or slide area.

5.14.7.3. If any control difficulties are encountered while the system is off, the instructor or flight examiner will take control of the aircraft and restore the system as appropriate.

Chapter 6

NORMAL OPERATIONS

6.1. Briefing Requirements. Use briefing guides in AFI 11-2MH-53 V3 CL-1 for aircrew briefings. Pilots in command will ensure their crews have received briefings prior to each mission. More than one briefing may be required for specific missions however, redundant items may be omitted.

6.1.1. Crew briefings. Cover all specific areas to be accomplished during the mission. These briefings should be accomplished in a formal atmosphere. Crewmembers will not fly unless they attend the crew briefing for their mission unless critical pre-mission duties conflict with the briefing. The PIC may then excuse crewmembers. Prior to engine start the PIC will give a mission brief to any excused crewmembers detailing all areas pertinent to their duties.

6.1.1.1. The PIC will brief the following factors anytime a landing into remote landing zones is anticipated:

6.1.1.1.1. Weather. Determine recent weather and its effect on the landing area. Conditions conducive to brown/white-out must be briefed. Wind effect will be evaluated by the aircrew.

6.1.1.1.2. Personnel and Vehicles. Known personnel and equipment locations will be briefed. If vehicles or personnel are operating in the landing area, attempt to determine their effect on the LZ.

6.1.1.1.3. Confined Area. The PIC will determine if a steep approach will be required, and actions to avoid settling with power. Determine blade tip clearance.

6.1.1.1.4. Abort Routes. Determine null areas and escape routes.

6.1.1.1.5. Surface Conditions. Brief expected surface features and conditions (tall grass, plowed field, sand, etc.)

6.1.2. Passenger Briefings. Prior to each flight, the PIC will ensure that all passengers are briefed. The briefing will include demonstration of seat belt and restraint harnesses. When more than one flight is accomplished by the same crew and passengers, subsequent briefings are not be required, except to brief route information, mission changes, etc. When additional passengers are added, brief them completely. All overwater flights will include a briefing on personal and aircraft life support equipment; i.e., life preserver use and life rafts.

6.1.3. Flight Briefings and Procedures. The following briefings and procedures are the responsibility of the PIC and must be completed in addition to other briefing requirements.

6.1.3.1. Departure. Before initial takeoff, brief the crew on the procedures to be followed during takeoff and climb to cruising altitude, and instructions for returning to the airport or landing area in case of an emergency.

6.1.3.2. Inflight. Conduct inflight briefings, as necessary, to cover any unusual circumstances and when flight safety or other conditions require the nonstandard accomplishment of any maneuver.

6.1.3.3. Approach and Landing. Before starting each approach, the pilot flying the aircraft will brief the procedures to be followed during approach, landing, and go-around/missed approach, if necessary. This briefing may be accomplished in conjunction with the Before Landing Checklist in the flight manual.

6.2. Flight Crew Information File (FCIF). Review VOLUME I, part B, before departure on all missions. AETC crews will also follow procedures outlined in AFI 11-202 Volume 2/AETC Supplement 1.

6.2.1. Update FCIF Currency Record (or MAJCOM equivalent form), if new material has been added to the FCIF since the last review. Legibly enter the last FCIF item number, the current date, and initial the FCIF Currency Record. Initialing the FCIF Currency Record certifies review of all items.

6.2.2. Crewmembers joining a mission enroute will receive an FCIF update from their primary aircrew member counterpart on that mission. Instructor pilots who fly with senior officers are responsible for briefing appropriate FCIF items.

6.2.3. Crewmembers not assigned or attached to that unit will certify FCIF review by entering the last FCIF number and their initials behind their name on the file copy of the flight authorization or their ACM orders.

6.3. Life Support Requirements. Upon reporting to the aircraft, the PIC or designated representative will ensure sufficient quantities of appropriate serviceable life support, survival equipment and protective clothing for the entire mission are aboard the aircraft. Verify AFTO Form 46, **Prepositioned Life Support Equipment**, prior to departing home station. Life support equipment and medical kits may be secured with seat belts.

6.3.1. Aircrew members and passengers will wear life preservers on overwater flights when route of flight is beyond autorotation gliding distance of the shore. Flights of this type also require aircrews to have HEEDs. Life rafts, life preservers, and HEEDs are not required when overwater flight occurs only for short distances, immediately after takeoff and before landing.

6.3.2. Helicopter crewmembers will wear survival vests when outside the local closed traffic pattern. **EXCEPTION:** Wear of the survival vest is optional with winter weight flight clothing if the combination of vest with winter clothing interferes with movement of the flight controls. Whenever the survival vest is not worn, it must be immediately available.

6.3.3. The PIC will advise all crewmembers and a discrepancy will be entered in the AFTO Form 781A, whenever aircraft emergency equipment is not located IAW the appropriate aircraft technical order.

6.3.4. Helicopter crewmembers must wear MAJCOM-approved constant wear anti-exposure suits on any preplanned overwater flight which is beyond autorotational distance from land and the water temperature is 60 degrees Fahrenheit or below. Consideration should be given to wearing the anti-exposure suit at temperatures above 60 degrees Fahrenheit after reviewing the following itmes factors:

6.3.4.1. Climate zone and existing weather throughout range of flights.

6.3.4.2. Operational requirements.

6.3.4.3. Number and type of aircraft in formation.

6.3.4.4. Time of flight over water.

6.3.4.5. Risk, based on aircraft load and mission configuration.

6.3.4.6. Location, availability, and capability of search and rescue (SAR) forces, (consider anticipated time in the water prior to pick-up).

6.3.4.7. Winds and wave height and their impact on SAR.

6.3.4.8. Altitude and distance from land.

6.3.4.9. Anti-exposure suits are not required when only the approach or departure is flown over water.

6.4. Flight Plans. MAJCOM approved flight plans are authorized for use in lieu of DD Form 175, **Military Flight Plan**, or DD Form 1801, **DOD International Flight Plan** for VFR flights terminating at the base of departure if no intermediate stops are planned.

6.5. International Procedures. Pilots in command will review the USAF Foreign Clearance Guide and brief crewmembers on applicable items before flights outside the CONUS. Comply with Customs, Immigration, Agriculture, Immunization, and quarantine requirements. The unit dispatching the mission is responsible for border clearance and other special clearances when required. Entry into foreign countries by personnel and equipment is directed by military agreements, diplomatic agreements, directives of the operational control commander, ICAO standards, and the Foreign Clearance Guide.

6.6. AFTO Form 781, AFORMS Aircrew/Mission Flight Data Document. Review the AFTO Form 781 before applying power to the aircraft or operating aircraft systems. The exceptional release must be signed before flight. A maintenance officer, maintenance superintendent, or authorized civilian will sign the exceptional release. If one of these individuals is not available, the PIC may sign the exceptional release. Ensure that the USAF fuel "Identaplate" and/or other authorized method of payment are aboard the aircraft.

6.7. Preflight Inspections . The preflight inspection will be accomplished by the primary flight engineer(s) for the assigned mission. Face-to-face turnovers between crewmembers are acceptable during rapid turn-around operations. **EXCEPTIONS:** During higher headquarters directed exercises and contingency operations, any qualified flight engineer(s) may accomplish the preflight inspection.

6.8. Tool Kits. The flight engineer will ensure a tool kit is on board for all flights. Individual units will establish requirements for tools to be included in these kits. As a minimum, the kit will include enough tools to remove and install chip detector plugs. Tool kits will have an inventory list for accountability and must be sealed. If the seal is broken, the PIC or his designated representative will inventory the kit and sign the accountability list prior to departing the aircraft.

6.9. Flying Clothing/Safety Equipment: All crewmembers will wear the aircrew uniform and other flying clothing/equipment in accordance with AFI 11-301, *Life Support Program*.

6.9.1. Eye Protection. Use protective goggles, plastic lens glasses, or the helmet visor for eye protection if duties require personnel to be in close proximity to the operating helicopter. Wear goggles whenever dust, sand, dirt, etc., constitute a hazard. During all live firing of weapons from an aircraft, ensure that all personnel involved in the firing of weapons wear eye protection to include one of the following: helmet visors, plastic lens glasses, safety goggles, or aircrew gas mask. Glass lens eyeglasses or sunglasses alone do not satisfy the requirement.

6.10. Checklists. Accomplish all checklists with strict discipline using the challenge and response method. A checklist is not complete until all items have been called for and responded to in sequence.

Insert current, approved flight manual or MAJCOM checklists in the USAF flight crew checklist binder IAW AFI 11-215.

6.10.1. Notes amplifying checklist procedures and limitations may be added. Currency of notes is the crewmember's responsibility.

6.11. Control. A pilot will be at a set of flight controls at all times when rotors are turning.

6.12. Crew Duties and Responsibilities:

6.12.1. Change of Aircraft Control. The change of flight controls will be accomplished using a positive change of controls. Use the statement, "Pilot/Copilot has the controls" to transfer control. The other aircrew member will acknowledge, "Pilot/Copilot has the controls".

6.12.2. The flight engineer in the cockpit is the primary crewmember responsible for dealing with BOLD FACE emergencies. The Pilot Not Flying will back up and assist the flight engineer with the emergency.

NOTE: If the flight engineer is not occupying the seat, the Pilot Not Flying will complete the FE duties.

6.13. Communications Policy:

6.13.1. Interphone Communications.

6.13.1.1. Limit intraplane transmissions and radios monitored to those essential for crew coordination.

6.13.1.2. All crewmembers will listen to interphone and hot microphone prior to APP start. Clearance is required from the PIC prior to going off interphone.

6.13.2. Command Radios.

6.13.2.1. Normally, use and monitor only one command radio plus guard. Monitoring two ATC controlling agencies' transmissions simultaneously is not recommended. This does not preclude establishing contact or radio check on another frequency.

6.13.2.2. The pilot operating command radios will tell the crew which radio is primary. All crewmembers will monitor the primary command radio unless specifically directed to do otherwise by the PIC.

6.13.2.3. Regardless of the primary command radio, monitor UHF GUARD (243.0).

6.13.2.4. One of the pilots will record and read back all ATC clearances except when ATC instructions require immediate execution and read back would interfere with the timely performance of aircrew duties.

6.14. Aircraft Lighting. Operate aircraft lighting IAW AFI 11-202V3, MAJCOM supplements and the following, except where operational mission requirements dictate otherwise:

6.14.1. Do not operate anticollision strobe lights during extended ground operations because of undue distraction to pilots and ground personnel. Strobe lights may be off when using NVGs at night below 200 feet AGL (CONUS ONLY). A fully operative anticollision strobe light is required day and night. Except for life and death missions, fly aircraft without an operative anticollision light to a point where

repairs can be made. Aircraft configured with multiple strobe lights may be flown with one light inoperative.

6.14.2. Position lights may be extinguished for formation training flights when using NVGs at night below 200 feet AGL (CONUS ONLY). Operations are subject to the following conditions and limitations. (FAR Exemption 5891A, expires 30 Apr 2002)

6.14.2.1. Limited to NVG flight training in USAF tactical helicopters.

6.14.2.2. Helicopter formations must use NVG scanners on each aircraft to clear the entire formation of airborne traffic.

6.14.2.3. Single-ship operations may only be conducted when escorted by a properly lit aircraft serving as an observation platform dedicated to surveillance for airborne traffic.

6.14.2.4. Traffic notifications from the observer to the PIC or flight lead shall be timely, commensurate with the position and speed of the observed traffic.

6.14.2.5. When traffic is a factor, all helicopters shall alter course as required to remain well clear of such traffic until it is no longer a factor.

6.14.2.6. Helicopter operations without position lights may not be conducted above 200 feet AGL. Operations must be contained within a prescribed and publicized area that is simply defined; e.g., the radius area of a point or location and :

6.14.2.6.1. Is established in an area of low traffic density.

6.14.2.6.2. Does not infringe upon FAA-designated airspace areas; e.g., Class D airspace.

6.14.2.6.3. Has been coordinated with the appropriate FAA Regional Air Traffic Division and Flight Standards Division Offices.

6.14.2.6.4. Units shall advertise each approved training area to operators at all airports within 50 miles of the area for 60 days preceding initial use.

6.14.2.7. Ground (airport or staging area) operations not in compliance with AFI 11-202V3 may be conducted at locations where only aircraft involved in NVG flight training are operating and suitable alternative measures for collision avoidance are instituted.

6.14.2.8. Each pilot conducting operations without lighted position lights must be thoroughly familiar with these provisions and limitations.

6.14.3. Search or landing lights must be on for all night takeoffs (unaided) and after turning final for night (unaided) approaches unless safety, weather, excessive glare, or aircraft operational procedures dictate otherwise.

6.14.4. An operable IR spotlight or white light that may be dimmed should be available prior to NVG operations.

6.15. Emergency Exit Lighting. The Helicopter Emergency Exit Lighting System (HEELS) is unreliable. Secure an alternate lighting source (chem light) over each exit to aid in underwater egress. If aircraft windows are installed, place a chem light on the emergency exit handles.

6.16. Electronic Devices. The use of electronic devices is as specified in AFI 11-202V3. For electronic devices not listed, the user will provide the aircrew a letter from the Aeronautical Systems Division, Dep-

uty for Engineering (ASC/ENAE) certifying the device is approved for airborne use. If the aircrew detects any interference from an electronic device used aboard the aircraft, discontinue the use of this device for the duration of the flight.

6.17. Illumination Requirements:

- 6.17.1. Fully operational (FLIR and Radar) MH-53 aircraft have no enroute illumination restrictions.
- 6.17.2. Do not fly with mixed ANVIS and F4949 NVGs on a crew. Exception: 58 SOW aircrews may mix F4949 and ANVIS NVG's on a crew, however, pilots must wear the same type of NVG's.
- 6.17.3. Flights conducted in an aircraft without a FLIR and/or Radar require 5% equivalent moon illumination (starlight is considered 8% EMI). The decision on whether sufficient illumination exists to complete the mission rest with the PIC or Flight Lead.

WARNING: NVG's worn in black-hole conditions can exacerbate induced motion illusions and lead to spatial disorientation.

6.18. Altitude Restrictions. Conduct all operations at or above 300 feet AGL except when lower altitudes are required for takeoff, landing, operational missions, training flights in approved areas or routes, or approved exercise missions.

- 6.18.1. Minimum enroute altitude for unaided (no NVG and no Pave Low system) night navigation, both operationally and for training, is 500 feet above the highest obstacle within 5NM.
- 6.18.2. NVGs and PAVE LOW system are the only approved methods for conducting night operations below 300 feet. Helicopters are limited to a base altitude of 50 feet above obstacles during day or night low-level tactical operations. Normal NVG overwater cruise flight is limited to 100' AWL base altitude. If required due to the tactical situation (METT-T), aircrew training/proficiency and night water operations, NVG overwater cruise is permitted down to a base altitude of 50' AWL. Time spent at the minimum altitude should be the minimum required to defeat the threat or complete tactical proficiency training and night water operations.
- 6.18.3. When sufficient illumination is not available to conduct NVG low-level operations or when flying over a non-surveyed area, conduct flights at a minimum altitude of 300 feet above the highest obstacle along the flight path in non-mountainous areas (500 in mountainous areas).

NOTE: Mountainous areas are defined as having a 500 foot change in surface altitude over ½ NM.

6.19. Minimum Safe Altitudes. Pilots must compute a minimum safe altitude for each leg of a low-level route. For flights conducted in a designated low-level area, a minimum safe altitude may be computed for the planned area of operation. The heading and altitude must provide a minimum of 1000 feet (2000 feet in mountainous areas) above obstacles within 5 NM of the course.

6.20. Weight and Balance. A new or corrected DD Form 365-4, **Weight and Balance Clearance Form F-Transport**, need not be recomputed provided the initial takeoff gross weight (item 16) is not changed by more than 500 lbs. The flight engineer will compute inflight crew and passenger equipment movement to ensure CG limits are not exceeded. These computations will address the maximum number of personnel and equipment that can be in a specific compartment without exceeding CG limits. This procedure applies to all operations in which CG limits may be exceeded as a result of personnel and equipment movement. Although no written adjustments are required, the flight engineer will compute these changes

and brief the PIC of the new CG. These computations will be briefed during the crew or mission brief or during flight, as required. If the basic weight/moment of the aircraft is changed, a new DD Form 365-4 will be computed

6.21. Aircraft Taxi Obstruction Clearance Criteria.

6.21.1. Without wing walkers, avoid taxi obstructions by at least 25 feet; with wing walkers, by at least 10 feet.

6.21.2. When taxi clearance is doubtful, use a wing walker. If wing walkers are unavailable or if provided and doubt still exists as to proper clearance, deplane a crewmember to maintain obstruction clearance.

6.22. Rotor Turning Offload and Onload Procedures. Employ the following procedures when helicopter rotors are turning:

6.22.1. The PIC, or designated representative, will brief passengers on procedures to be followed.

6.22.2. One crewmember will escort passengers through the safe approach zone when off-/onloading the aircraft, except when off-/onloading in a threat environment or during combat training.

6.22.3. Rotors turning off-/onload for crew changes during local training missions is authorized provided the enplaning crew does not approach the helicopter until cleared by a crewmember. The crewmember clearing in personnel must be on intercom.

WARNING: Personnel must be aware of the possibility of reduced main rotor and tail rotor blade ground clearance and avoid the up-slope side and tail rotor side of the helicopter when off or on-loading.

WARNING: Personnel will have weapons pointed down, safetied, and radio antennas collapsed prior to entering the rotor plane. They will enter the rotor plane area only when cleared by the crew (beckoning motion hand signal).

6.23. Oxygen Requirements:

6.23.1. Flight operations above 10,000 feet MSL without supplemental oxygen shall only be conducted when mission essential. Comply with AFI 11-202 Vol. 3.

6.23.2. Aircrew will attend altitude chamber training that fulfills the requirements specified in AFI 11-403 for helicopter aircrew.

WARNING: Unpressurized operations above 10,000 feet MSL without supplemental oxygen are known to cause measurable performance decrement. The effects of several short exposures between 10,000 and 14,000 feet MSL may be cumulative and lead to hypoxia. For operations at night, carefully consider the increased risk associated with the loss of night vision capability and the increase in the time required for full dark adaptation. Flights at 14,000 feet MSL without supplemental oxygen may cause a 40-45% loss of night vision capability. Fatigue and excessive smoking may further reduce night vision capability.

6.24. Passenger Policy. DoD 4515.13-R, Air Transportation Eligibility establishes criteria for passenger movement on DoD aircraft. AFI 11-401, *Flight Management*, provides further guidance on orientation and public affairs travel. Refer to these publications directly. In all cases, passengers will be manifested on a DD Form 96, **Passenger Manifest**.

6.24.1. For spouse orientation, air refueling and threat maneuvers are prohibited.

6.24.2. For other orientation categories, passengers will be seated with belts fastened during threat maneuvers.

6.24.3. Space-required. DoD 4515.13-R lists several categories of passengers, not previously mentioned, who are authorized official travel on DoD aircraft. Group CC or COMAFSOF determine and approve eligibility for all space required categories with the following exceptions:

6.24.3.1. Supported forces (Mission forces). A sub-category of space required passenger defined by this instruction as US and foreign military personnel who are an integral part of the mission being performed, functioning with the aircrew to execute this mission. This may include, but is not limited to, mission specialists and special operations forces. Approval is assumed by the mission tasking. Manifest on DD Form 96 or DD Form 2131 according to mission.

6.24.3.1.1. Restrictions. There are no restrictions on mission events. Passengers will be restrained by the safest means possible within mission constraints. Reference paragraph 6.26., Personnel Restraints, and Figure 6.1., Passenger Classification/Restraint Policy. Pilots in command will ensure that supported forces are briefed on the mission profile and mission events before flight.

6.24.3.2. Supporting forces. A sub-category of space required passenger defined by this instruction as US and foreign military, DoD civilians, and US civilian employees under contract to the DoD, who directly support the mission or a deployment of an AFSOC unit. This may include, but is not limited to; maintenance, communications, intelligence, logistics, fuels, and flight test personnel, unit-supporting chaplains and public affairs personnel, civilian contractors required for inflight checks or deployment support, FAA representatives, STS, fire support officers, and other military personnel who are on board to communicate/coordinate with ground forces. Off-station travel requires travel orders. Local flights will be documented by letter of authorization from the Group CC or COMAFSOF. (Exception: Squadron Commanders/Mission Commanders may approve squadron assigned personnel. Squadron/Mission Commanders may also approve maintenance personnel required for mission accomplishment). When frequent local flights are necessary, commanders may issue annual authorizations by name or AFSC. When using this option, pilots in command will ensure that all restrictions in the following paragraph are complied with for each individual mission. Manifest all supporting forces on DD Form 96.

6.24.3.2.1. Restrictions. Both pilots must be fully qualified unless excepted by AFI 11-401, paragraph 1.12 (Requirements for Pilots in Dual-Controlled Aircraft). Simulated EPs are prohibited (Exception: EPs required for the purposes of a functional check flight are authorized. In this context, personnel on board are required for mission accomplishment. Limit personnel to absolute minimum required). Other mission events are authorized. Passengers will be seated with belts fastened during threat maneuvers. Pilots in command will ensure that supporting forces are briefed on the mission profile and mission events before flight.

6.25. Passengers Occupying Crew Positions:

6.25.1. Pilots in command may authorize passengers to sit in the flight engineer's seat during cruise flight. Group CC or COMAFSOF may approve authorized passengers to sit in the flight engineer's seat during other phases of flight on specific missions. Approval for passengers to occupy a crew position with a set of flight controls is governed by AFI 11-401.

6.25.2. Any passenger occupying a crew position must be on interphone.

6.26. Personnel Restraints. (See Figure 6.1.)

6.26.1. Aircrew. All personnel must be restrained by the safest means possible for the type mission being flown. At least one pilot will have seat belt and shoulder harness fastened when rotors are engaged. Crewmembers may perform duties that require them to be unrestrained for short periods of time provided they are not in close proximity to an open door.

6.26.2. Flight engineers are not required to wear the shoulder restraint harness when it prevents movement required with duties. The seat back should be up (except over water) and the lap belt used at all times.

6.26.3. Combat equipped troops. When carrying troops/teams and seats/seat belts are not installed/used due to mission or aircraft load, alternate restraints will be used by those personnel. These restraints may not protect occupants in a crash sequence as well as a seat belt, but must be of such design to keep occupants from falling out of open doors. Each individual will have a restraint to secure him to the aircraft. Additionally, doors will be closed or cargo straps across open doors where the possibility exists that personnel could fall out.

NOTE: Additional aircrew are considered team members within the context of this paragraph and may be secured with alternate restraints.

6.26.4. Alternate loading methods used should allow seats and equipment not required for the mission to be removed. Define the cabin floor itself as the seat and either a seat belt, snap link device, tie-down strap, or similar restraining device to restrain all occupants. Brief all users on the type of restraining device installed.

6.26.4.1. Alternate restraints will be secured as soon as possible before/after takeoff. They will not be removed until as late as practical prior to the landing/assault (no earlier than the 5-minute call).

6.26.4.2. Accomplish troop security by one of the following methods in descending order of preference:

6.26.4.2.1. Seatbelts or snap links attached to tie-down rings on the cabin floor.

6.26.4.2.2. Five thousand (5,000) pound tie-down straps.

6.26.4.2.2.1. Attach two 5,000-pound tie-down straps longitudinally along the cabin walls between the 20,000 pound tie-down fitting at station 322 and the 10,000 pound tie-down fitting at station 502 (left side) and the 10,000 pound tie-down fittings at stations 262-502 (right side).

6.26.4.2.2.2. Position two 5,000-pound tie-down straps longitudinally along the cabin floor between the 5,000-pound tie-down fittings at stations 322-502 (left side) and stations 262-502 (right side).

6.26.5. Except for primary crewmembers and SOF team members, all cabin occupants must be seated with seat belts fastened during taxi, initial takeoff and initial approach and landing. Passengers authorized flight on tactical missions may be secured by alternate methods for subsequent takeoffs and landings provided they do not interfere with primary crewmembers duties.

Figure 6.1. Passenger Classification/Restraint Policy.

PASSENGER CLASSIFICATION	APPROVAL AUTHORITY	RESTRAINT	AIR REFUELING	TAC EVENTS
Space Available	Group/CC, COMAFSOF	Seat/Seat Belt	Yes *	No
Aeromedical Evacuation	Group/CC, COMAFSOF	Seat/Seat Belt	Yes *	No
Orientation				
Incentive Flights	See AFI 11-401, Table 1.1	Seat/Seat Belt	Yes *	Yes*
DV	See AFI 11-401, Table 1.1	Seat/Seat Belt	Yes *	Yes*
Familiarization Flights	See AFI 11-401, Table 1.1	Seat/Seat Belt	Yes *	Yes*
Spouse	See AFI 11-401, Table 1.1	Seat/Seat Belt	No	No
Public Affairs Flights	See AFI 11-401, Table 1.1	Seat/Seat Belt	Yes *	Yes*
Space Required				
Supported Forces				
US and Foreign Military Personnel	Mission Tasking Authority	Alt. Load	Yes	Yes
Additional Aircrew	PIC	Alt. Load	Yes	Yes
Supporting Forces				
Maintenance Personnel supporting deployment	Unit/CC, Mission Commander	Seat/Seat Belt	Yes	Yes
Unit Assigned/Attached Personnel	Unit/CC, Mission Commander	Seat/Seat Belt	Yes	Yes

* When authorized by approving authority.

6.27. Deployment of Non-AFSOC Parachutists. Group or mission commanders may authorize non-AFSOC parachutists to deploy from AFSOC aircraft provided a qualified jumpmaster is on board. Personnel authorized must be graduates of an accredited armed forces parachutist course, possess aeronautical parachutist orders, and have a valid operational currency, administrative, or training requirement. For water jumps utilizing SCUBA equipment, personnel must be certified military SCUBA divers.

6.28. Jamming and Interference. All aircrews and other radio users must be familiar with the procedures for reporting incidents of meaconing, intrusion, jamming, and interference (MIJI) or Spectrum Interference (SI). Info HQ AFSOC/DOXT on all MIJI/SIR reports.

6.29. Required Equipment. The final responsibility regarding equipment required for a mission rests with the PIC. If one PIC accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that PIC, or a different PIC, to subsequent operations with the same item or system inoperative. If the PIC elects to operate with degraded equipment or aircraft systems, coordinate mission requirements (i.e., revised departure times, fuel requirements, maintenance requirements, etc.) prior to flight with the mission control agency to ensure the decision does not adversely impact follow-on missions.

6.29.1. Helicopter operations will not be conducted with any malfunction in the main fuel tank quantity or warning systems, except on emergency missions. If operations continue with a malfunction, the fuel tank involved should be fully serviced and visually checked. Squadron CC or his designated representative may waive this requirement.

6.29.2. The radar altimeter will be operational for night, low-level tactical events. Squadron CC or his designated representative may waive this requirement.

6.29.3. If a malfunctioning or broken tail skid cannot be secured in the down position, the aircraft will not be used for transition or emergency procedure training missions or any other training mission where approaches to touchdowns or approaches to low hovers will be practiced. On all missions flown with the tail skid in the pinned up position, landings will be accomplished from a medium to high hover. Squadron CC or his designated representative may waive this requirement.

6.29.4. If a minor inflight AFCS malfunction occurs which can be isolated, the flight may be continued at the pilot's discretion IAW the flight manual.

6.30. Aircraft Servicing and Ground Operations:

6.30.1. Hot refueling is the transfer of fuel into the fuel tanks of an aircraft with one or more aircraft engines operating. The operation can be conducted day or night at either fixed sites or an austere environment. Forward Area Refueling/Rearming Point (FARRP) is the site at which the refueling/rearming is taking place. Rearming may be conducted in conjunction with hot refueling. A comprehensive mission briefing and strict compliance with these procedures will ensure an expeditious safe refueling/rearming operation. The guidance in this section supplements the procedures outlined in TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, appropriate flight manuals and checklist.

6.30.2. Conduct hot refueling IAW AFI 11-235, TO 00-25-172, and appropriate flight manuals.

6.30.3. The following guidance for aircraft marshalling during FARRP operations will be used:

6.30.3.1. Hose deployment personnel will not be used to marshal aircraft. When CCT/STS are responsible for primary ATC of an airfield, or are responsible for ATC operations at the FARRP site, they will marshal and control all aircraft movement into and out of the FARRP site. If CCT/STS is not available, units are responsible for self marshalling into and out of the FARRP site.

6.30.3.2. All helicopters with the exception of H-6 derivatives, AH-1's and AH-64's, will land just prior to the FAARP site and deplane a crew member to marshal the helicopter to the designated refueling point. The helicopter will be marshaled into a position so that it's refueling receptacle is 25 feet from the IR chemlite placed on the water container.

6.30.3.3. If terrain features do not allow for landing just prior to the FARRP site, helicopters will hover taxi to the designated refueling point, utilizing the procedures outlined in **6.30.3.1.**

6.30.3.4. Aircraft commanders must ensure marshaling procedures outlined in the above paragraphs are briefed between the tanker and receiver aircraft prior to FARRP operations. These procedures must be strictly adhered to at all times, ensuring all safety requirements are met.

6.30.4. Radio transmissions on other than UHF/VHF radios are prohibited (radar/HF radios/ SAT-COM/radar altimeter).

6.30.5. Aircrews will not wear Gortex garments within 50 feet of the aircraft when refueling with JP-4 or Jet B. (N/A for Nomex Gortex garments)

6.30.6. When not directly involved in the refueling operation, personnel will remain at least 50 feet from refueling operations.

6.31. IFF/SIF. Operate Mode 4 IAW theater and operational directives. Operational check of the mode 4 will be made prior to takeoff (test equipment permitting). The preferred and primary method of testing mode 4 is with the ground test set.

6.31.1. Ground and inflight checks are mandatory maintenance debrief items. Crews will annotate any failure or unsuccessful interrogation of the Mode 4 in the aircraft forms. Units will develop procedures for accomplishing the Mode 4 ground check. The check should be coordinated between aircrew and maintenance during the aircraft preflight.

6.31.2. IFF modes 1, 2, and 3A codes, having been inserted and transmitted, are not classified and may be left set in the transponder. IFF Mode 4 codes must be zeroized before leaving the aircraft.

6.32. Forced or Precautionary Landings. If the crew becomes doubtful of the helicopter's airworthiness or encounters hazardous weather conditions, they should execute a precautionary landing, provided the landing conditions are not more hazardous than the inflight problem. Aircraft security and accessibility for maintenance are secondary considerations to aircrew safety. Report all precautionary landings through the appropriate chain of command as soon as communications are established.

6.32.1. Forced or Precautionary Landings Due to Inflight Malfunction:

6.32.1.1. When the forced or precautionary landing occurs at an Air Force base and the cause has been investigated, corrected, and inspected by qualified maintenance personnel and the PIC has determined that no operating hazards exist at the departure base or enroute, the PIC may continue flight.

6.32.1.2. The squadron commander's approval is required prior to further flight when the host base commander transfers maintenance responsibility to the crew or when the precautionary landing occurs at a location where qualified USAF maintenance is not available. At the squadron commander's discretion, this approval authority may be delegated to the PIC.

6.32.1.3. In the event a forced or precautionary landing occurs at a location where communications are not available, the following procedures apply:

6.32.1.3.1. Remain at the landing site and await assistance if the PIC determines the aircraft is not safe for flight.

6.32.1.3.2. If the aircraft is safe for flight, the PIC may authorize further flight.

6.32.1.3.3. If a greater hazard exists to the crew or aircraft at the landing site, then continue to the nearest safe landing area. The decision to resume flight under these circumstances should be based on a thorough evaluation of all the hazards and risks involved.

6.32.2. Precautionary Landings Due to Weather:

6.32.2.1. If deteriorating weather is encountered during VFR operations, consider a precautionary landing as a viable option in addition to course reversal, or continuing under IFR.

6.32.2.2. Further flight may be authorized by the PIC after a precautionary landing for weather. Make a reasonable effort to notify appropriate agencies of the precautionary landing and to determine additional weather information.

6.33. Fuel Dumping. Do not initiate fuel dumping except for emergencies and contingency missions. Aircraft are authorized to dump fuel during MAJCOM or higher headquarters approved exercise missions. Weight adjustment, except during emergencies, will normally not be made below 3,000 feet AGL or over agricultural/populated areas.

6.34. Flare/Chaff Checks. After expending chaff or flares, deplane a crewmember to check the aircraft for any hung flares/chaff prior to ground taxiing near personnel or equipment.

6.35. Instrument Approach Minimums:

NOTE: When RVR is reported as a "less than value" (example: RVR10-), one-half prevailing visibility (PV) is used to determine required visibility.

6.35.1. Weather Below Minimums. If the reported ceiling is below the minimum for the approach, but the visibility value is at or above the authorized minimums before initiating an enroute descent and approach, ensure fuel remaining is sufficient to accomplish the enroute descent and approach, missed approach, and flight to alternate with appropriate reserves.

6.36. Radar Altimeter Procedures. Normally, the radar altimeter is set at the appropriate autorotation flare altitude. During low-level operations the recommended setting is 80 percent of the height you intend to fly. For instrument approaches, set the radar altimeters to the appropriate HAT or HAA prior to the FAF.

6.37. Radar Advisories. Participate to the maximum extent possible while operating in VFR or simulated IFR conditions.

6.38. Advisory Calls:

6.38.1. Mandatory altitude calls for the pilot not flying the aircraft:

6.38.1.1. Non-precision Approaches:

6.38.1.1.1. "One hundred feet above" minimum descent altitude (MDA).

6.38.1.1.2. "Minimums" at MDA.

6.38.1.1.3. "Runway in sight" when the runway environment is in sight. Do not call too soon when obstructions to vision (such as fog, haze, low stratus clouds, etc.) are present.

6.38.1.1.4. "Go-around" at missed approach point if the runway environment is not in sight.

6.38.1.2. Precision Approaches:

6.38.1.2.1. "One hundred feet above" decision height (DH).

6.38.1.2.2. "Land" at DH if the runway environment is in sight and the aircraft is in a position for a normal landing.

6.38.1.2.3. "Go-around" at DH if the runway environment is not in sight or if the aircraft is not in a position for a normal landing.

6.38.1.3. Climb Out:

6.38.1.3.1. "Transition Altitude"

6.38.1.3.2. "One thousand feet below" assigned altitude.

6.38.1.4. Descent:

6.38.1.4.1. "Transition Altitude"

6.38.1.4.2. "One thousand feet above" assigned altitude.

6.38.1.4.3. "One thousand feet above" initial approach fix altitude or holding altitude.

6.38.2. Any crewmember observing unannounced heading deviations greater than 10 degrees, air-speed deviations of 10 knots, altitude deviations of 100 feet, or potential terrain or obstruction problems will immediately advise the pilot flying. Also announce deviations from prescribed procedures for the approach being flown.

6.39. Power Available. Pilots in command are required to know the power margin for intended operations. When power required is within 10 percent of power available, the aircrew will reconfirm power requirements. To ensure that adequate power is available, conduct power available checks using the procedures outlined in applicable flight manual section 4. At other times, performing the normal hover power and single point performance checks, as specified in the applicable flight manual, are sufficient in determining minimum acceptable torque for given flight conditions.

6.40. Customs, Immigration, and Agriculture Inspections.

6.40.1. Obtain customs, agriculture, and public health clearance, as required, prior to opening any doors other than the crew entrance door or enplaning and deplaning personnel.

6.40.2. Proceed directly from the aircraft to customs, immigration, or agricultural inspection for processing at those stations where federal or local inspections are required. The flight engineer or the PIC completes the necessary forms before reporting to inspectors.

6.40.3. After clearing with border clearance agencies, the pilot or flight engineer will return to the aircraft for offloading and other post-flight procedures.

6.40.4. A US military aircraft is a sovereign instrument. When cleared to over-fly or land in foreign territory, it is US policy to assert that military aircraft are entitled to the privileges and immunities which customarily are accorded warships. These privileges and immunities include, in the absence of stipulations to the contrary, exemption from duties and taxation; immunity from search, seizure, and inspections (including customs and safety inspections); or other exercise of jurisdiction by the host nation over the aircraft, personnel, equipment, or cargo on board. USAF pilots in command will not

authorize search, seizure, inspection, or similar exercises of jurisdiction enumerated above by foreign authorities except by direction of HQ USAF or the American Embassy in the country concerned.

6.40.5. Pilots in command will not permit the inspection of their aircraft by officials of any foreign government. If requested to do so, the PIC and crew will deny access and seek aid from the senior AFSOC representative or US Embassy or consulate within the host nation. Inform customs or other officials of the above policy and request that they confirm their request through their own government and with US Department of State representatives. If necessary, the aircrew will seal the aircraft and enter into crew rest, and relay departure intentions, until resolution of the matter by appropriate authority. Use communications by the fastest means available to inform command and control facilities should this situation occur.

6.40.6. When confronted with a search request by foreign authorities, aircrews should consider the following procedures:

6.40.6.1. In most cases, search attempts may be stopped by a statement of the PIC to the foreign officials that the aircraft is a sovereign instrumentality not subject to search without consent of HQ USAF or the chief of mission in the country concerned. This should be clearly conveyed in a polite manner so as not to offend foreign authorities who may honestly, but mistakenly, believe they have authority to search USAF aircraft.

6.40.6.2. If foreign authorities insist on conducting a search, the PIC must negotiate to delay the search until contact is made with HQ USAF/XOFN or the appropriate embassy. The PIC should unequivocally state, the aircrew has no authority to consent to the search and that they must relay the foreign request to these agencies for decision. The PIC should then notify these agencies of the foreign request by the most expeditious means available. Thereafter, the PIC should follow instructions provided by the appropriate embassy and HQ USAF.

6.40.6.3. If foreign officials refuse to desist in their search request, the PIC should indicate that they would prefer to fly the aircraft elsewhere (provided fuel and mechanical considerations permit a safe departure) and request permission to do so.

6.40.6.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, the PIC should state that he protests the course of action being pursued and that he intends to notify both HQ USAF and the appropriate American Embassy of the foreign action. The PIC should then allow the foreign agents on board the aircraft, without physical resistance, and thereafter report the incident to HQ USAF and appropriate embassy as soon as possible.

6.40.7. In all instances, specific instructions may be briefed because of sensitive cargo or equipment. These instructions and applicable provisions of classified supplements to the foreign clearance guide should be followed where applicable.

6.41. Utilization of Civilian Law Enforcement or Medical Personnel. Generally, before transporting civilian law enforcement officials or civilian medical personnel, obtain proper authorization through installation commander, AFSOC, or USSOCOM. Civilian law enforcement or medical personnel may be required to perform duties at an accident site. These duties may include death determination or human remains removal. Local and international laws may affect mission prosecution and should be reviewed prior to deployment or pickup of civilian personnel. The primary method of deploying or recovering civilian law enforcement or medical personnel is by landing. Civilian law enforcement or medical personnel may be deployed and recovered by hoist provided all other transport resources have been examined and

determined to be inadequate and approval is obtained from the Group CC or COMAFSOF. Prior to hoist deployment, brief civilian law enforcement or medical personnel on all applicable procedures and safety and emergency considerations involved. If unable to contact the controlling agency for approval, the PIC may approve the carrying of civilian personnel on life or death missions when it is determined that these passengers are essential for the successful completion of the mission. Commanders will not transport civilian law enforcement personnel into areas of imminent danger or where confrontation with civilian criminal targets is likely, will not use military force against civilian criminal targets unless in self defense, and will not direct the action of civilian authorities in enforcing the law or making arrests.

6.42. Crew Debriefing.

6.42.1. Training Missions. The PIC will conduct the debriefing and complete the appropriate documentation.

6.42.2. Operations Under Combat Conditions. Each aircrew participating in operations under actual combat conditions will participate in an intelligence debriefing.

6.42.3. Commanders will ensure that all aircrews are debriefed immediately following a combat or combat support mission during which any tactics or procedures were observed that may affect other operations.

6.42.4. Pilots in command encountering ground fire will submit an immediate airborne report to their controlling agency followed by a ground fire incident report to intelligence immediately after landing.

6.42.5. Other Missions. The PIC has the responsibility of affording to each crewmember the opportunity to discuss unusual aspects of the mission. Debriefings may be formal or informal as the situation requires.

Chapter 7

MISSION PREPARATION

7.1. Flight Planning Systems. The primary flight/mission planning system is the Special Operations Forces Planning and Rehearsal System (SOFPARS). SOFPARS is a subset of the Air Force Mission Support System (AFMSS) which includes the Portable Flight Planning Software (PFPS). Upgraded or new versions of SOFPARS will be released and authorized by the AFSOC/DO for use after applicable testing has been completed (OPR: HQ AFSOC/DOXC)

7.1.1. Electronic Data Transfer. If the flight planning computer transfers a flight plan to the aircraft electronically, it must be an AFSOC approved system. HQ AFSOC/DOXC will periodically publish a listing of approved systems. Aircrews will not use unapproved versions of any system to load an aircraft navigation computer without HQ AFSOC/DOXC approval

7.2. Approval of Exercise Training Areas and Low Level Navigation Areas. Geographical areas, such as range complexes, may be designated as exercise or low-level navigation areas. Ideally, low-level navigation routes, if utilized, should feed into exercise areas.

7.2.1. Surveys. Prior to any operations below 300 feet AGL, accomplish a survey of the route or area as follows:

7.2.1.1. Make an extensive map study of the selected routes and areas. Annotate all man-made obstacles over 50 feet AGL (or the lowest altitude to be flown) , except when below the tree line. Additionally, annotate any published low-level routes, no-fly areas, animal farms or other hazards within the boundaries. Use the Chart Updating Manual (CHUM) or host nation procedures to ensure current obstacles are depicted on maps.

7.2.1.2. For navigation legs below 300 feet AGL, a highly experienced pilot selected by the unit commander or mission commander will fly the survey. The pilot will conduct a parallel search of the proposed route or area at the lowest applicable altitude down to a minimum altitude of 50 feet AGL. Check the obstacle location against map location and any additional obstacles charted.

7.2.1.3. Flight surveys are not required provided the exercise area is within a designated range complex and the host provides specific information (description, location, height MSL and AGL) for all man-made obstacles over 50 feet AGL or the lowest altitude to be flown.

7.2.1.4. Route or area surveys conducted by other participating aircraft may be used provided the survey information is available and flight operations are conducted no lower than the survey altitude.

7.2.1.5. If a route or area has been inactive or flight operations have not been conducted at survey minimums for 6 months, re-accomplish the survey or restrict operations to or above the lowest level flown during the 6-month period.

7.3. Master Low-level hazards map. Each unit must have a Master low-level hazards map depicting hazards to low-flying aircraft for the local areas and areas of frequent operation. Plot them on a suitable chart and display them in the crew briefing area. Make changes as received and bring them to the attention of all crewmembers. Review the chart monthly. The reviewer should annotate the chart with their name and the date. Include an appropriate legend for the hazards. Update master maps monthly using the

CHUM supplement (or host nation equivalent). Annotate the date of the update on the master map. When uncharted obstacles are found, record appropriate information (location, approximate height AGL and MSL). Pilots in command will ensure this information is immediately posted on the master hazards map.

7.4. Coordinates. The following procedures will be used:

7.4.1. When reporting or receiving positions using coordinates derived from maps, charts, or related cartographic products, a complete reference to the source of the coordinates will be provided. This reference will include the datum map or chart producer, series, sheet number, edition and date.

7.4.2. When reporting or receiving positions using coordinates derived from non-cartographic sources such as GPS receivers, Analytical Photogrammetric Positioning Systems (APPS), or related systems, a complete reference to the source of the coordinates will be provided. This reference will include the datum, method used to derive the coordinates, agency producing the coordinates, and accuracy of the coordinates.

NOTE: Aircrew will confirm a common datum to their customers during the mission planning process. Failure to plan navigation/LZ's using a common datum may result in errors of up to several miles

7.5. Flight Logs. Prepare a MAJCOM approved flight log for each tactical mission and include the following as a minimum: turn points, headings, distances, ETES, MSAs, and fuel computations. A flight log is not required if the above information is included on the map.

7.6. Mission Kits. Mission Kits will be on-board the aircraft for all missions (exception: local area maintenance check flights where an aircraft flight manual is on board). Mission and Navigation kits weighing less than 200 lbs. may be secured with seat belts. Units may supplement kits. The following items will be included:

7.6.1. Aircraft Flight Manual (-1) (may be carried by a designated crewmember).

7.6.2. Air Refueling Manual (-20) (may be carried by a designated crewmember).

7.6.3. AFI 11-202, Volume 3, *General Flight Rules*. (may be carried by a designated crewmember).

7.6.4. AFI 23-202, *Emergency Procurement of Ground Fuels, Oil, and Other Supplies and Services at Non-DOD Locations*.

7.6.5. AFI 23-202, *Refueling at Other Than USAF Bases*.

7.6.6. AFI 11-2MH-53 Volume 3, *MH-53 Operations Procedures*. (may be carried by a designated crewmember).

7.6.7. AF Form 15, **USAF Invoice**.

7.6.8. AF Form 315, **USAF Aviation Fuels Invoice**.

7.6.9. AF Form 457, **USAF Hazard Report**.

7.6.10. AF Form 651, **Hazardous Air Traffic Report (HATR)**.

7.6.11. AF Form 711, **USAF Mishap Report**.

7.6.12. Current Flight Crew Information Summary.

7.6.13. DOD FLIP IFR Supplement (one each).

- 7.6.14. DOD FLIP VFR Supplement (one each).
- 7.6.15. DOD FLIP Flight Information Handbook (one each).
- 7.6.16. DOD FLIP Enroute Low Altitude Charts (one set for area of operation).
- 7.6.17. DOD FLIP Low Altitude Instrument Approach Procedures (two sets for area of operation).
- 7.6.18. Maps and Charts (sectional aeronautical charts as required).

7.7. Weather Planning:

NOTE: Groups may establish minimum weather criteria (ceiling or visibility) less than day minimums for flights during which only hovering maneuvers will be performed (e.g., hover checks, FCFs).

7.7.1. Training Weather Minimums:

7.7.1.1. VFR Minimums:

7.7.1.1.1. Comply with FAA/ICAO weather minima unless local or theater specific weather minima is more restrictive. In the absence of more restrictive criteria, the following minimum weather criteria (ceiling/visibility) apply during all VFR training operations:

7.7.1.1.1.1. Day: 500/2 SM or 700/1

7.7.1.1.1.2. Night:

7.7.1.1.1.2.1. 1000/2 SM: Unaided.

7.7.1.1.1.2.2. 500/2 SM: ANVIS/ITT 4949 NVGs/PAVE LOW.

7.7.1.2. IFR Minimums. Comply with AFI 11-202 Volume 3

7.7.2. Operational Minimums:

7.7.2.1. VFR Minimums. IAW training VFR minima unless Group CC/COMAFSOF establishes lower minimums.

7.7.2.2. IFR Minimums. IAW AFI 11-202 Volume 3 unless Group CC/COMAFSOF develops and MAJCOM/DO approves Self Contained Departure (SCD), enroute, and Self Contained Approach (SCA) procedures as well as weather minimums which ensure takeoffs, enroute operations and landings can be safely accomplished.

7.8. Hover Coupler Operations. Aircrew will not plan to terminate an IMC arrival (instrument approach or SCA) utilizing the hover coupler.

7.9. Adverse Weather Planning. Flight may be made into areas of known or forecast thunderstorms if VMC is maintained and thunderstorm activity is avoided by a minimum of 5 NM.

7.10. Fuel Planning:

7.10.1. For flight planning purposes, when visibility-only criterion is used, or if destination weather information may be unreliable, fuel requirements for descent, approach, and missed-approach will be 900 pounds. Additionally, for all flights VFR or IFR, plan to arrive at destination with a fuel reserve of 900 pounds.

7.11. Route Planning:

7.11.1. Meet objective TOT's within 30 seconds.

7.11.2. Map Selection. Maps with a scale of 1:250,000 or greater detail are required for low-level operations.

7.12. Map Preparation. Annotate enemy threats and turning or checkpoints on the map. (This information may classify your map.)

7.12.1. Standard Symbols for Map Preparation. The following annotations and symbols will be used in preparing maps for both combat and non-combat operations

7.12.1.1. Waypoint. Use a circle to depict enroute points where the aircraft course is altered or key actions occur. Number waypoints consecutively to facilitate identification

7.12.1.2. Initial Point (IP). The IP is identified by a square centered on the point with sides parallel to the course line. If the IP is simply a coordinate, position a dot on the coordinate location centered within the square.

7.12.1.3. Objective Point (OP). The OP is identified by a triangle centered on the planned point with the apex pointing in the direction of flight.

7.12.1.4. NIB (Optional). NIBs are designed to give the crew the required navigational data from the present waypoint to the next waypoint. The following information will be included in NIBs:

7.12.1.4.1. To Waypoint. The number designator of the next waypoint.

7.12.1.4.2. Heading to the next waypoint.

7.12.1.4.3. ETE. The time to the next waypoint.

7.12.1.4.4. MSA. Minimum safe altitude for each leg.

7.12.1.4.5. Distance.

7.12.1.4.6. Fuel.

7.12.1.5. Emergency Landing Bases. Use a single circle with a diagonal line to identify those airfields compatible with unit aircraft to serve as emergency landing bases. Alternate Recovery Bases. Use two concentric circles to identify those airfields with compatible unit aircraft which are preferred for recovery in case the primary base is unusable because of weather, damage, or other reasons. Connect this symbol to the planned course by a dashed line depicting the alternate course from either a planned divert point or from the primary recovery base.

7.12.1.6. Recovery Arrow Box. Use a horizontally divided arrow box pointing in the general direction of the alternate recovery base to provide navigational information to the alternate base. This box depicts base name, distance in NM from divert point to alternate base, command and control communications, and the course from the divert point to alternate base. Estimated fuel required for the recovery may be placed immediately beneath the recovery arrow box.

7.12.1.7. Course Line and Time and Distance Marks. Draw course lines for the entire route inbound to the objective and continue through the return route to the primary and alternate recovery bases.

7.12.1.8. Time Marks. When used, place them on the right side of the course line.

7.12.1.9. Distance Marks. When used, place them on the left side of the course line.

7.12.1.10. Combat Entry Point. A heavy line identifies and locates the point at which the flight route crosses the FEBA or FLOT. The line extends at least 1 inch either side of the course line.

7.12.1.11. Operational Advisory Annotations. Advisory annotations concerning operational aspects of the mission are positioned to the side of the course line. The annotation consists of a line at the point enroute where the function should be performed. The action is noted on the side of the line. The action description may be either enclosed in a box or left open at the discretion of the mission planner. Examples of these operational advisories are: start climb, start descent, IFF and SIF STBY, lights off, lights on, TACAN receive only, start TFA, IFF and SIF ON, and TACAN T/R.

7.12.1.12. Order of Battle (OB). Depict threat information directly on the navigation chart using the following symbols and annotations (Chartpak symbols are recommended):

7.12.1.12.1. Surface-to-Air Missiles (SAM). The number associated with the symbol indicates the specific type of weapon system (SA-2, SA-3, SA-6, etc.). The actual SAM location is at the base of the symbol. Use circles to indicate effective radii of the system at the planned mission altitude. (Symbols are mandatory; radii are optional).

7.12.1.12.2. Antiaircraft Artillery (AAA). Depict known AAA sites and indicate type (e.g., ZSU 23-4, 57mm, etc.).

7.12.1.12.3. Aircraft. Indicate locations of enemy airfields supporting aircraft capable of intercepting the mission. The delta wing symbol indicates all weather capable aircraft and the swept wing symbol indicates clear air mass (CAM) interceptors.

Chapter 8

MISSION EMPLOYMENT

8.1. Formation Flying:

8.1.1. Spacing: During all formation operations, minimum spacing is one rotor disk (exception: maintain a minimum of 100 ft spacing during taxi). Base rotor disk separation on the largest disk diameter when engaged in dissimilar formation operations.

8.1.2. Dissimilar Formation. Formation flights with dissimilar aircraft are authorized when participating crewmembers are trained, briefed, and are thoroughly familiar with the other aircraft's performance and tactics.

8.1.3. Communication. Do not initiate formation flight without positive interplane radio communications (exception: communications out procedures). Prior to formation flight, conduct a communications check of all aircraft in the formation.

8.1.4. Aircraft Lighting. Lighting configurations other than those listed below in **Figure 8.1.** are considered non-standard, and must be briefed.

Figure 8.1. Standard Lighting Configuration

	POSITION LIGHTS	WHITE STROBE	RED STROBE	IR STROBE	TIP LIGHTS	SLIME LIGHTS
DAY OVERT	BRIGHT	ON	OFF	OFF	OFF	OFF
NIGHT OVERT	DIM	OFF	CHALK LAST	OFF	60%	A/R
COVERT	OFF	OFF	OFF	CHALK LAST	60%	A/R
BLACKED OUT	OFF	OFF	OFF	OFF	OFF	OFF

8.2. Terminal Operations:

8.2.1. Takeoff Procedures: Recompute TOLD prior to departure if personnel or equipment have been on-loaded in the landing zone.

8.2.2. Landing Zone/AIE Survey Requirements: A landing zone survey is required prior to any landing or AIE to an unprepared area with the following exceptions:

8.2.2.1. Water AIEs with no live deployments

8.2.2.2. When a high and low reconnaissance is accomplished prior to landing/AIE (Note: the low reconnaissance may be accomplished on final approach provided OGE power is available)

8.2.2.3. During an operational mission where, in the judgment of the PIC, the accomplishment of the high and low reconnaissance would degrade mission accomplishment

8.2.2.4. During successive approaches where conditions are equal to or less stringent than a previous approach to the same area

8.2.2.5. When a Landing Zone survey is required, use the following procedures:

8.2.2.5.1. Units will conduct, and all aircrew should be familiar with, the HLZ programs described in AFI 13-217 AFSOC Sup 1.

8.2.2.5.1.1. It is the responsibility of all aircrew or ground personnel to notify the POC for the unit HLZ survey program of any changes to existing HLZs in a timely manner.

8.2.2.5.2. A thorough review of the landing zone survey and accompanying photography / imagery will be accomplished by all crewmembers during the aircrew brief. The aircraft commander is responsible for ensuring that any crewmember that was unable to attend the brief either reviews the landing zone survey or is briefed on the hazards associated with the HLZs.

8.2.3. For the first approach into any unprepared landing zone, select all available hover symbology prior to commencing the approach (MH-53M). In MH-53J aircraft, the decision to select symbology on the HDD rests with the PIC, however, GVR must be selected by both pilots. EXCEPTION: Coupled approaches

8.2.4. If any degradation in on-board systems (hover indicators, HDD, doppler, radar altimeter, etc.) is discovered which could result in loss of situational awareness during approach/hover, the PIC will inform the crew. The decision to proceed rests with the PIC.

8.2.5. Ensure scanners clear the flight path before beginning a descent. Avoid descent rates greater than 300 feet per minute during the final portion of the approach and landing.

8.2.6. Go-Around Calls. If any crewmember calls “go-around”, the pilot flying will immediately execute a maximum power climb until clear of all obstacles. (Exception: The pilot flying deems the risk of go-around is greater than the risk of landing)

8.3. Alternate Insertion/Extraction:

NOTE: Ensure all operations off the ramp will not exceed aircraft CG limits.

8.3.1. A cutting device will be readily available to cut ropes or AIE devices during emergencies or rope entanglement.

WARNING: The crewmember at the deploying station will ensure the departing team members have removed their restraining devices prior to deploying.

WARNING: Do not use equipment that is certified as, “training use only”, for live training.

8.3.2. Mission Briefing. Prior to deployment or pickup, the PIC will ensure the appropriate briefing for alternate insertion and extraction briefing is completed. Aircrew and team briefings will emphasize proper hand signals, time calls, and emergency procedures.

8.3.3. Hoist:

CAUTION: A survivor who is not familiar with rescue hoist procedures, will be assisted by personnel trained in hoist operations.

8.3.3.1. Hoist Operator. The primary hoist operator must be the FE; however, any crewmember may be designated the hoist operator as the mission dictates. When radio contact is not available,

use hand signals between ground personnel and the helicopter IAW AFI 11-2MH-53 Volume 3 CL-1.

8.3.3.2. Ground the hoist to discharge static electricity to prevent personnel on the ground or water from sustaining a shock. Do not ground the hoist near spilled fuel.

8.3.3.3. Do not conduct hoist training with the hoist operator's intercom inoperative.

8.3.3.4. The hoist operator will wear a heavy, work-type glove or equivalent, on the hand used to guide the hoist cable and have the helmet visor down or eye protection in place.

8.3.3.5. Do not use the hoist to relay messages except when all other possible means of communications (i.e. radio, message streamer, tag line) have been exhausted.

8.3.3.6. Complete the hoist operator's checklist prior to final approach.

8.3.3.7. If the survivor appears to be injured and is attached to a parachute, hover at an adequate distance to prevent the rotor wash from billowing the parachute and dragging the injured survivor.

8.3.3.8. Hoist Equipment

8.3.3.8.1. Forest Penetrator.

8.3.3.8.1.1. The description and maintenance instructions for the forest penetrator are contained in TO 14S6-3-1 and TO 00-25-245, Section IV.

8.3.3.8.1.2. The forest penetrator can be used to recover inert or injured personnel safely with the exception of those with back injuries.

8.3.3.8.1.3. It is possible to recover three people at one time with the penetrator. However, this should only be done when time is critical since it may load the hoist to the limit.

8.3.3.8.2. Horse Collar (Rescue Strap).

8.3.3.8.2.1. The horse collar can be used for single occupant recoveries from land or water. The horse collar can only be used to recover ambulatory personnel.

8.3.3.9. During training missions, terminate live hoisting immediately at the first indication of equipment malfunction. If possible, return the individual to the surface by lowering the aircraft. For actual SAR missions, existing circumstances must dictate actions to be taken. The hoist operator will advise the pilot, check hoist power sources and hoist controls, and attempt to operate the hoist from the cockpit position, if necessary.

8.3.3.9.1. To prevent dropping the rescue device, use the hoist hook safety or retaining pin. **(EXCEPTION:** When raising or lowering an empty stokes litter for water recoveries, the use of the safety or retaining pin is not required. Install the safety or retaining pin prior to hoisting the litter with a survivor.)

8.3.3.10. Over water, once the survivor is ready for hoisting, establish the hover over the rescue device prior to hoisting the survivor out of the water.

8.3.3.10.1. Do not descend below 50 feet AWL until established on final.

8.3.3.11. Inert Survivor Recovery. If it is determined that the victim is unconscious or unable to enter the rescue device, lower someone trained in hoist operations to aid an injured or inert survi-

vor. The deployed crewmember will secure the survivor for hoisting and give a "thumbs up" signal to indicate that the survivor is ready for pickup.

WARNING: Inspect the entire length of the hoist cable any time a live-hoist is anticipated.

8.3.4. Rappelling. Deploying personnel are responsible for aircraft rigging and proper hookup of rappellers.

WARNING: Ensure the aircraft maintains at least a 25 foot hover height during rappel operations to avoid rotor downwash from blowing the ropes into the main or tail rotor system.

8.3.4.1. Do not deploy ropes until the aircraft is in a stable hover over the intended deployment area.

WARNING: The crewmember at the deploying station will ensure that the ropes reach the ground prior to final positioning of rappellers for deployment. The crewmember at the deploying station will coordinate with the pilot to ensure the aircraft maintains a hover altitude that will keep the ropes in contact with the ground.

CAUTION: After the last rappeller is off the rope, the crewmember at the deploying station will release the ropes. Release ropes prior to commencing forward flight to prevent possible entanglement. Do not pull the rappelling rope back into the aircraft. Release ropes before landing.

WARNING: When an unsafe condition is encountered, stop any additional team members deploying from the aircraft. Make no attempt to physically stop a person in the act of deploying as this may cause the person to lose grip of the rope and increase the probability of injury to the team member.

8.3.5. Fast Rope. The aircrew will install ropes, inspect attaching points, and accomplish the Hoist Power On Preflight Checklist if the hoist is used for fast rope operations (entire length of cable need not be checked). The deploying team is responsible for providing and inspecting ropes.

8.3.5.1. Accomplish the hoist operator's Before Pick-up Checklist (The Hoist Master Switch must be in the "CREW" position) prior to using the hoist for fast rope operations.

NOTE: Do not use the fast rope bar, hoist mount or FRIES equipment for fast rope extractions.

WARNING: The PIC is responsible for ensuring that all crewmembers are aware of the length of the ropes. Failure to do so may result in serious injury to deploying personnel or damage to the aircraft.

WARNING: Fastrope operations off the tail will not be conducted below 25 feet AGL.

WARNING: Do not fire weapons located at the deployment stations during personnel deployment from those stations.

8.3.6. Rope Ladder:

NOTE: Rope ladder extractions will not normally be performed over salt-water due to possible engine power deterioration.

8.3.6.1. The flight crew is responsible for providing, inspecting, and rigging rope ladders.

WARNING: When using cargo tie-down straps to attach ladders to the aircraft, do not use a strap that has any sign of grease or oil contamination or corroded hardware for live pick-ups..

CAUTION: Limit the number of personnel on the ladder at any one time. The excess weight could cause aircraft control or CG problems. The limit is five forward and five aft.

8.3.6.2. In an emergency with personnel secured to the ladder do not exceed 60 KIAS.

8.3.7. Special Patrol Insertion and Extraction (SPIE) Operations:

8.3.7.1. During SPIE operations, do not exceed 70 KGS (50 KGS in cold weather).

8.3.7.2. 200 feet of obstacle clearance will be maintained between the bottom of the SPIE assembly and any ground obstacles, tactical situation permitting.

8.3.7.3. The team is responsible for providing, inspecting, and rigging all required equipment.

8.3.7.4. The helicopter must have an operable radar altimeter.

8.3.7.5. Maximum flight time with personnel on the rope is 15 minutes.

8.3.8. Helocast Operations (Low and Slow):

8.3.8.1. Cover Ship/Safety Boat Requirements:

8.3.8.1.1. When conducting night water operations a safety boat, second hoist-equipped helicopter with a qualified crew, or a second helicopter capable of deploying a raft will be present. When deploying personnel during night water operations a safety boat or second hoist-equipped helicopter with a qualified crew will be present. When deploying personnel during day water operations, a safety boat or second hoist equipped helicopter is not required as long as the deployment is carried out less than 100 yards from shore. Squadron CC or COMAFSOF may approve alternate cover ship capabilities after careful consideration of water temperature, sea state, distance from shore, response time and illumination.

8.3.8.1.2. A qualified cover ship must meet either of the following requirements:

8.3.8.1.2.1. Night Water Hoist Cover Ship

8.3.8.1.2.1.1. Operable Hoist

8.3.8.1.2.1.2. Night water hoist qualified aircrew

8.3.8.1.2.1.3. Enough fuel for one hour of loiter time and recovery

8.3.8.1.2.1.4. Maintain visual and radio contact with the other aircraft

8.3.8.1.2.2. Helicopter Capable of Deploying a Raft

8.3.8.1.2.2.1. Deployable raft in addition to the raft that is standard with the aircraft

8.3.8.1.2.2.2. Enough fuel for one hour of loiter time and recovery

8.3.8.1.2.2.3. Maintain visual and radio contact with the other aircraft

8.3.8.1.2.2.4. Accomplish the "Water Approach" or "Automatic Hover" checklist prior to final.

8.3.8.2. Deployments will be conducted at a maximum of 10 feet AWL and 10 knots GS.

8.3.8.3. Open all deploying exits at 50 feet AWL and below. Deploying personnel must be in a restraining harness or safety belt until the five-minute call.

8.3.8.4. All required water hoist extraction devices will be on board, inspected, and rigged prior to low and slow deployments.

8.3.8.5. All rescue hoist checklists will be completed in the event an injury occurs to the departing team. An immediate extraction may be required. Stow the rescue hoist hook so the cable is not in the doorway.

8.3.9. Combat Rubber Raiding Craft (CRRC) Delivery Operations (Soft Duck):

8.3.9.1. Crewmembers are responsible for cabin configuration, loading, and tie-down of CRRC/soft duck.

WARNING: Failure to ensure adequate weight distribution of the CRRC equipment/boat motor may result in an aft center of gravity causing the craft to flip or become airborne after deployment. This could result in severe damage to the aircraft or boat and possible injury to personnel.

8.3.9.2. CRRC weight distribution and center of gravity (CG) will be discussed between the team and deploying aircrew during briefings and loading upon the aircraft. If deploying with the motor mounted on the transom, special consideration will be given to placing fuel containers, additional equipment, and/or ballast in the boat bow to counter a stern heavy situation. With minimal or no equipment in the craft, the boat motor should be configured in the center of the craft for even distribution of the delivery load until after deployment. Emphasis placed on equal distribution of cargo weight loaded and CG, will ensure a safe and expedient deployment of the boat and personnel.

NOTE: Have an operable radar altimeter and the tail skid retracted prior to drop.

NOTE: The team may exit the aircraft from either the door or ramp or both.. Ensure personnel deploying from the door are clear before deploying from the ramp.

8.3.10. Seven or Twenty-Man Life Raft:

8.3.10.1. Pre-flight the raft and sign off in the AFTO form 46 (Life Support Equipment) prior to extended flight over water.

8.3.11. Personnel Parachute Delivery. Personnel will exit the aircraft on the command of a qualified jumpmaster after clearance is received from the PIC. Reference USSOCOM Manual 350-3, *Airborne Operations (Parachuting)*.

8.3.11.1. Mission Briefing. The PIC and jumpmaster will conduct a thorough briefing. All aircrew members and the jumpmaster will attend. Ensure a passenger briefing is given. In addition, cover the following items:

8.3.11.1.1. Use of restraining devices.

8.3.11.1.2. Use of doors and ramps.

8.3.11.1.3. Movement in the cargo compartment.

8.3.11.1.4. Hung jumper procedures.(define procedure)

8.3.11.2. Altitude and Airspeed Limitations for Personnel Parachute Delivery (Training).

8.3.11.2.1. Minimum pattern altitude. 1500 AGL/AWL. (1000 ft for SOF when required for contingency training.)

8.3.11.2.2. Delivery Airspeed. 60-90 KIAS. (Specific airspeed must be briefed prior to take-off.)

8.3.11.2.3. Tail skid must be retracted.

8.3.11.3. The jumpmaster will configure the aircraft as required by regulation and unit operating procedures.

8.3.12. Land Equipment Drops:

8.3.12.1. Drops should be made at as low an altitude as safety permits, but never above 200 feet AGL.

8.3.13. Vehicles, Motorcycles, and ATV's. The T.O. 1H-53(H)B-9 will be referred to when loading any vehicle. When loading and unloading vehicles, use marshalling signals IAW AFI 11-218.

8.3.14. Belay Operations:

8.3.14.1. The team is responsible for pre-mission inspection of belay equipment and rigging.

CAUTION: The aircrew is responsible for ensuring accurate rigging of belay equipment and safe deployment from the aircraft.

8.3.14.2. All loose rope will be in a weighted bag.

8.3.14.3. The belaying person will maintain control of the rope at all times.

8.3.14.4. Only one package will be connected to the fast rope quick release for deployment.

WARNING: A gunner's belt, first line belt and/or Army Swiss C will secure all participating personnel.

WARNING: Fast rope and belaying operations will not occur simultaneously off the ramp.

8.3.14.5. The crewmember will obtain positive control of the weight bag prior to releasing the fast rope quick release. Release the weighted bag immediately after the quick release paddle.

8.3.14.6. Do not deploy the belay equipment until established in a stable hover over the deployment area.

8.3.14.7. Belaying ropes will be released prior to landing or forward flight. Ropes will not be pulled back into the aircraft other than in an emergency.

8.4. Cargo Sling Operations:

8.4.1. Brief all personnel conducting sling operations on all aspects of the operation, to include:

8.4.1.1. Rotor Wash effects

8.4.1.2. Hook-up procedures and method

8.4.1.3. Safety

8.4.1.4. Interphone procedures

8.4.1.5. Emergency procedures (in-flight and hovering)

8.4.2. Prior to Sling Operations, Pilots in command will ensure a thorough preflight of all cargo sling and hook components.

8.4.3. Confirm power available is sufficient prior to conducting sling operations.

8.4.4. Move all cargo sling loads slightly before pick-up to ensure that the load is not frozen or held to the surface.

8.4.5. The sling arming switch will be on at or below 500' AGL.

8.4.6. Avoid overflight of personnel, buildings or equipment.

8.4.7. Hook-up personnel will wear protective goggles or helmet with visor down for eye protection.

8.4.8. Turn off the lower strobe light during pick-up and delivery. Other lights may be turned off at the discretion of the aircrew.

8.5. Weapons Employment:

8.5.1. Give gunners an opportunity to test fire weapons prior to any potential engagement. Avoid inhabited areas. When in formation, prior to test fire, the pilot will request permission from flight lead.

NOTE: During training, only fire weapons on an approved range, warning area, or restricted area.

8.5.2. Gunners will immediately notify the pilot of gun malfunctions.

8.6. Peacetime SAR On-Scene Procedures:

8.6.1. Human Remains. AFSOC and AETC do not remove human remains from crash or incident sites except as provided in the subparagraph below. Do not commit resources to body removal until the mission approving or releasing authority has been informed of the request and the attendant circumstances, and has authorized the removal of the remains.

8.6.1.1. Military Personnel. If the crash or incident site is on a military reservation or within military jurisdiction, the remains of military personnel shall be removed only with the approval of a medical officer. In the absence of a medical officer at the crash or incident site, approval must be obtained from the proper military medical authority prior to removal of remains. If the crash or incident site is not within military control, jurisdiction over the remains rests with the civil authorities. In such cases, do not remove remains unless authorized by the appropriate civil official (usually the local coroner or medical examiner).

8.6.1.2. Civilian Personnel. The remains of civilian personnel employed by the military are recovered as stated above. Remains of other civilians may be removed IAW applicable laws of the jurisdiction, after authority has been obtained.

8.6.1.3. Exceptional Cases. In extreme situations where time is critical and communications are impossible, the PIC may, with the approval of the appropriate civil official, remove remains and deliver them to the proper civil authorities. This procedure is authorized only if conditions already make it impossible to obtain timely approval from the mission approving or releasing authority. Whenever this procedure is employed, the PIC must comply with any laws or regulations affecting the transport of human remains.

8.6.2. Civil Appointments. AFSOC and AETC personnel will not, at any time, accept appointments as deputy coroner.

8.6.3. International Aspects. A mission requiring the removal of human remains, military or civilian, across international borders, will involve national as well as local law. Prior to such operations, consult the United States diplomatic officials to the concerned countries to obtain necessary clearances for the operation.

8.6.4. Safeguarding Aircraft Wreckage. Reference AFI 91-204. If first on the scene, establish security until properly relieved. Guard classified matter until competent authority assumes control. Do not disturb personal effects on survivors or deceased. Inventory and store personal effects found in the crash area. Obtain receipts from personnel who assume custody, and retain them with inventories in the unit.

8.6.5. Permission to Enter Private Property. Obtain written permission from the owner or person in control prior to entering private property. Trespass by SAR personnel is excused or justified if it is required by necessity.

8.6.6. Marking Aircraft Wreckage. Obliterating or marking abandoned USAF aircraft wreckage is the responsibility of base commanders (reference AFI 91-204). However, this function may be delegated to an AFSOC unit. Use the following procedures:

8.6.6.1. USAF Aircraft. Mark wreckage with a yellow cross as large as the condition of the wreckage permits. When condition of wreckage prevents a marking easily visible from the air, appropriately mark logs, rocks, and other material in the immediate area.

8.6.6.2. Non-USAF Wreckage. Do not mark or obliterate non-USAF aircraft to guard against possible damage claims against USAF. Paint a yellow cross on material other than aircraft parts.

8.6.6.3. Recording Data on Wreckage. To assist aircraft accident investigations, the recovery team will prepare a written description of the aircraft remnants and their location; the location, attire, and appearance of victims and survivors; evidence of accident cause, including instrument readings, control settings, condition and attitudes of control surfaces and landing gear; and such other data that may assist in analyzing the accident. Make every effort to preserve all aircraft papers, including flight records, charts, maintenance forms, radio logs, etc.

8.6.7. IFF. TH/MH-53 aircraft are authorized to use Mode 3, Code 1277, when operating in domestic airspace when on a VFR flight plan or on the VFR segment of a composite IFR or VFR flight plan, and:

8.6.7.1. On an official SAR mission.

8.6.7.2. Enroute to or from or within a designated search area.

8.7. Non-Tactical Shipboard Operations:

8.7.1. Aircrews will abide by the procedures outlined in Joint Publication 3-04.1 *Joint Tactics, Techniques, and Procedures for Shipboard Helicopter Operations*.

8.7.2. Currency and Qualification training. Aircrew will conduct shipboard operations training IAW the SOCOM/U.S. Navy Memorandum of Understanding. Refer to AFI 11-2MH-53 Volume 1 for all training requirements.

CAUTION: Mission and/or aircraft commanders will reference shipboard EMI restrictions in the aircraft flight manual prior to conducting shipboard operations.

8.7.3. Mission Commanders will ensure that all personnel receive a pre-deployment brief consisting of the following:

8.7.3.1. Launch Procedures and signals

8.7.3.2. Landing Procedures and signals

8.7.3.3. Aircraft control doctrine and Procedures

8.7.3.4. Emergency procedures peculiar to shipboard operations

8.7.3.5. Special procedures for night and IFR

8.7.3.6. Landing Aids

8.7.3.7. Communication

Chapter 9

STANDARD OPERATING PROCEDURES

9.1. General:

9.1.1. Units will publish local and unique unit operating procedures. The title of this SOP will indicate the unit concerned. Example, "20 SOS Standard Operating Procedures".

9.1.2. These procedures will not be less restrictive than items contained in this or extracted from other Air Force Instructions. Items may include, but are not limited to the following:

9.1.2.1. Local terrain and weather rules.

9.1.2.2. Local area flying procedures.

9.1.2.2.1. Gunnery/ECM Range procedures.

9.1.2.3. Taxi or parking plans, etc.

9.1.2.4. Evacuation or dispersal plans.

9.1.2.5. Training or operational landing/AIE sites.

9.1.2.6. Noise abatement procedures.

9.1.2.7. Standard briefing items and terminology.

9.1.2.8. Standard Mission folder/ kneeboard items.

9.1.2.9. Mission planning factors.

9.1.2.10. Copies of these Standard Operating Procedures will be distributed to all affected aircrew members. Forward two copies of these SOP's to HQ MAJCOM/DOV.

ROBERT H. FOGLESONG, Lt General, USAF
DSC/Air & Space Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11-202V1, *Aircrew Training*
AFI 11-202V2, *Aircrew Standardization/Evaluation Program*
AFI 11-202V3, *General Flight Rules*
AFI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Material*
AFI 11-205, *Aircraft Cockpit and Formation Flight Signals*
AFI 11-215, *Flight Manuals Program (FMP)*
AFI 11-301, *Aircrew Life Support (ALS) Program*
AFI 11-401, *Flight Management*
AFI 11-403, *Aerospace Physiological Training Program*
AFI 13-217, *Assault Zone Procedures*
AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*
AFI 24-401, *Customs—Europe*
AFI 24-402, *Customs – Pacific*
AFI 24-403, *Customs – Southern*
AFI 24-404, *Customs -- Domestic*
AFI 31-101 V1, *The Air Force Physical Security Program*
AFI 31-401, *Information Security Program Management*
AFI 91-202, *The US Air Force Mishap Prevention Program*
AFI 91-204, *Safety Investigations and Reports*
AFJMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*
AFMAN 91-201, *Explosives Safety Standards*
AFMAN 11-217 V1 and V2, *Instrument Flight Procedures*
CJCSI 3900.01. Chairman Joint Chiefs of Staff Instruction, Position Reference Procedures, 21 Mar 94
DOD 4515.13-R, *Air Transport Eligibility*
DOD 4500.54-G, *Foreign Clearance Guide*
DoD 5200.1, *DOD Information Security Program*
DODI 5000-2, *Defense Acquisition*
FAA AC 90-45A, *Approval of Area Navigation Systems for use in the U.S. National Airspace System*
Joint Pub 3-04.1; *Joint Tactics, Techniques and Procedures for Shipboard Helicopter Operations*

Joint Pub 3-50, *National Search and Rescue Manual Volume 1*

TO 1-1A-8, *Emergency Manual Series, Aircraft & Missile Repair, Structural Hardware*

TO 14D1-2-2, *TCTO Series*

TO 1H-53(M) J-1, *Flight Manual, USAF Series, MH-53J Helicopter*

TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*

TO 00-75-5, *Air Evacuation*

TO 11A10-24-7, *Aircraft Parachute Flares, Specialized Storage and Maintenance Practices*

TO 11A10-25-7, *Pyrotechnic Signals, Specialized Storage and Maintenance Practices*

TO 11A10-26-7, *Storage and Maintenance Procedures, Pyrotechnic Signals*

TO 11A8-2-1, *Operating Instructions, Hand and Rifle Grenades*

TO 11A8-5-5, *Storage and Maintenance Procedures, Grenades, Hand and Rifle*

USSOCOM Manual 350-2, *Joint Air Asset Allocation Conference*

USSOCOM Manual 350-3, *Airborne Operations (Parachuting)*

USSOCOM Manual 350-6, *Special Operations Forces Infiltration/Exfiltration Techniques*

Abbreviations and Acronymns

AGL—above ground level.

ARC—Air Reserve Component.

AWL—above water level.

COMAFSOF—Commander Air Force Special Operations Forces.

FEBA—forward edge of battle area.

FLOT—forward line of troops.

FOL—FORWARD OPERATING LOCATION.

FRIES—FAST ROPE INSERTION and EXTRACTION SYSTEM.

IDAS/MATT—INTERACTIVE DEFENSIVE AVIONICS SYSTEM/MULTI-MISSION ADVANCED TACTICAL TERMINAL.

JSOTF—JOINT SPECIAL OPERATIONS TASK FORCE.

LZ—LANDING ZONE.

MSA—MINIMUM SAFE ALTITUDE.

NVG—NIGHT VISION GOGGLE.

NOW—NIGHT WATER OPERATIONS.

OPR—OFFICE OF PRIMARY RESPONSIBILITY.

OPCON—OPERATIONAL CONTROL.

RNAV—AREA NAVIGATION.

SOF—SPECIAL OPERATIONS FORCES.

SPIES—SPECIAL PATROL INSERTION and EXTRACTION SYSTEM.

Terms

ABORT—To turn back from or cut short a mission before its successful completion for reasons other than enemy action. This may occur after an aircraft is airborne or on the ground before takeoff.

ADDITIONAL CREWMEMBER (ACM)—An additional crewmember is one assigned in addition to the normal aircrew complement required for a mission for purposes of performing flight evaluations, supervising, or monitoring inflight procedures.

ALERT AIRCRAFT—An operationally ready aircraft specifically designated to be launched IAW timing factors established for the assigned missions with a ready crew available.

AVAILABLE CREW—Operationally qualified aircrew which has completed the allotted ground time since completion of a mission and can be available for aircrew duty within one hour.

BACKUP AIRCRAFT—Any aircraft ready, available, and unassigned which may be substituted for the assigned aircraft for specific missions.

BASIC CREW—The crew complement required to accomplish a mission. The basic crew is determined by the tasking and the aircraft flight manual. Basic crew may be in excess of the flight manual minimum crew (pilot, copilot, flight engineer).

BASIC MISSION CAPABLE—Crewmembers qualified and current to perform some portion of the unit mission, but who do not maintain mission ready status.

BINGO FUEL—The computed fuel remaining at a point in flight that will allow safe return to the point of intended landing.

BORDER CLEARANCE—Those clearances and inspections required to comply with federal, state, and Agricultural Customs, Immigration, and Immunization requirements.

CHALK NUMBER—Numerical position of each wingman in the formation; i.e., "two, three, four."

COMMANDER, AIR FORCE SPECIAL OPERATIONS FORCES (COMAFSOF)—The commander designated by USCINCSOC for CONUS deployments or by theater SOC/CCs for overseas deployments, who is responsible for management of Air Force Special Operations Forces (AFSOF) within a theater, a geographic area, or a designated operation. The COMAFSOF is responsible to USCINCSOC for management of CONUS-deployed AFSOF or to the respective SOC/CC for management of theater assigned AFSOF and is responsible to COMAFSOF for monitoring and management of AFSOF operating within the specific area of responsibility.

COMMAND AND CONTROL—An arrangement of personnel and facilities, plus the means of acquisition, processing, and dissemination of information, used by a command in planning, directing, and controlling operations.

CONTINGENCY MISSION—A mission operated in direct support of an OPLAN, operation order, disaster, or emergency.

CREW COMPLEMENT—The number of crew personnel used for a specific mission.

DIVERSION.—Operational term for the in-flight diversion of a mission from its point of intended landing to any other location.

DESIGNATED REPRESENTATIVE—Individuals authorized in writing by the appropriate command level as having decision-making authority.

DEVIATION.—A deviation occurs when:

The takeoff time is greater than 0.2 hours (14 minutes) after scheduled takeoff time.

The takeoff time is greater than 0.3 hours (20 minutes) prior to scheduled takeoff time.

EXERCISE—A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training or evaluation. It may be combined, joint, or single-service, depending on participating organizations.

EXTENDED OVERWATER FLIGHT—Flight beyond the navigation aid or communications receiving capability of the aircraft.

FORWARD AREA REFUELING/REARMING POINT (FARRP)—A ground site designated for quick refueling/rearming.

HAZARDOUS CARGO or MATERIALS—Explosive, toxic, caustic, nuclear, combustible or flammable, biologically infectious, or poisonous materials that may directly or indirectly endanger human life or property, particularly if misused, mishandled, or involved in accidents (AFI 11-204, AFMAN 24-204; TO 11N-20-11).

HEEDS—Helicopter Emergency Egress Device.

INITIAL POINT (IP).—A point near drop zones, landing zones, or extraction zones over which final course alterations are made to arrive at the specified zone.

INTERMITTENT OR TEMPORARY WEATHER CONDITIONS—The definition of these two terms can be considered synonymous for aircrew use. They describe the weather (cloud coverage and height, visibility, and winds, including gusts) that is expected to exist for periods of 30 minutes or less and forecast to occur less than one-half of the forecast period.

LATN—Low Altitude Tactical Navigation

LOW AND SLOW APPROACH—An approach to water utilizing Pave Low unique systems in order to accomplish swimmer/equipment deployment day or night. This maneuver will apply to operations below 50 feet AWL and does not apply to hoisting operations.

MANIFEST—Movement record of traffic airlifted on aircraft operated by, for, or under the control of the Air Force.

METT-T—Mission, enemy, terrain and weather, troops and support available and time available. Factors to be considered in estimating the situation during the planning of a military operation.

MISSION CAPABLE FUEL—The minimum fuel required to complete the mission, as planned, and land at the destination with the required fuel reserves.

MISSION READY—Crewmembers fully qualified and current to perform the unit mission.

MISSION FOLLOWING—Monitoring the location and status of aircraft and crews through the use of departure, arrival, and advisory messages.

NIGHT WATER OPERATIONS—Low and slow, rope ladder, fast rope, CRRC deployment, and hoist operations below 50' AWL utilizing NVG's/PAVELOW systems.

OPERATIONALLY READY AIRCRAFT—An aircraft which is capable of flight with all required equipment operable to carry out the primary assigned mission

STATION TIME—A specified time at which aircrew, passengers, and material are to be in the aircraft and prepared for flight. Passengers will be seated and loads tied down. Aircrews will have completed briefing and aircraft preflight inspection prior to station time.

TWILIGHT—The periods of incomplete darkness following sunset and before sunrise. Civil twilight is designated when the center of the sun is 6 degrees below the celestial horizon, about 24 -28 minutes before and after sunrise or sunset.

Attachment 2

REQUIRED PUBLICATIONS LISTING

<i>Publication</i>	<i>P</i>	<i>FE</i>	<i>AG</i>	<i>DSO</i>
AFI 11-202 V1	I	I	I	I
AFI 11-202 V2	E	E	E	E
AFI 11-202 V3	X	X	X	X
AFMAN 11-217 V1	X			
AFMAN 11-217 V2	X			
AFI 11-2MH-53 V1	X	X	X	X
AFI 11-2MH-53 V2	X	X	X	X
AFI 11-2MH-53 V3	X	X	X	X
AFI 11-2MH-53 V3 CL-1	X*	X*	X*	X*
AFI 11-401	X			
FCIS/FCB (Note 1)	X	X	X	X
AFI 13-217	I			
T.O. 1-1C-1	X	X		
T.O. 1-1C-1-20	X	X*		
T.O. 1-1C-1-20 CL	X*	X*		
TO 1H-53(M)J-1	X	X*	X	
TO 1H-53(M)J-1CL-1	X*	X*		
TO 1H-53(M)J-1 CL-2		X*	X*	
TO 1H-53(M)J-1-1 PARTIAL	X^	X*^		
TO 1H-53(M)J-1-1 CL-1	X^*	X^*		
TO 1H-53(C)A-1	X^	X*^	X^	
TO 1H-53(C)A-1 CL-1	X*^	X*^		
TO 1H-53(C)A-1 CL-2		X*^	X*^	
TO 1H-53(M)J-5		X*		
TO 1H-53(H)B-9S-2		X*		
11W1-13-5-2			X	
11W1-13-3-132			X	

I- Instructor

E-Evaluator

X- All

* required in flight

^ only in applicable units

NOTE 1: AETC crews follow guidance contained in AFI 11-202, Volume 2/AETC Supplement 1 for FCIF and FCB requirements.